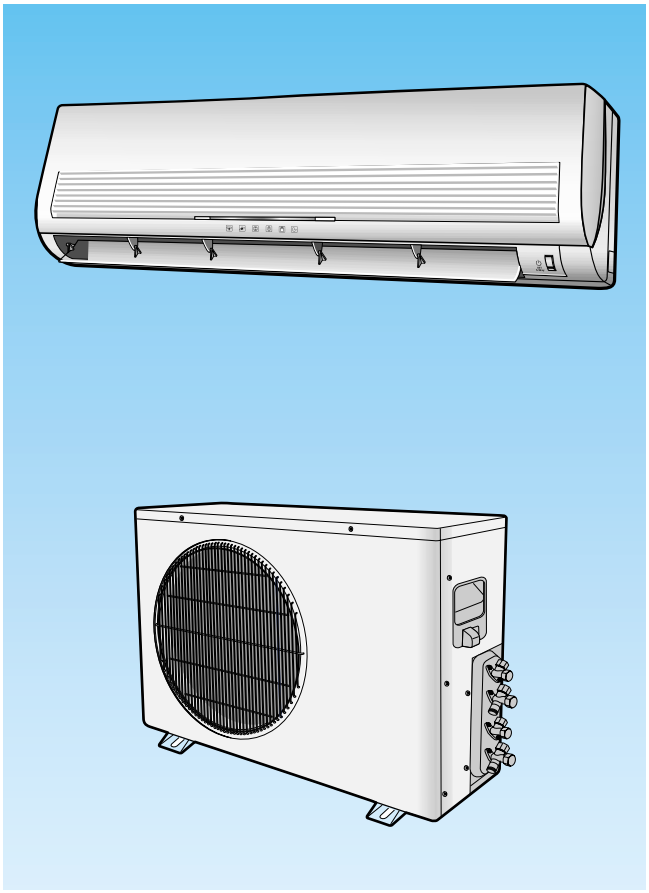
SAMSUNG

ROOM AIR CONDITIONER

INDOOR UNIT	OUTDOOR UNIT
MC18AC2-09	MC18AC2X
MC19AC2-07	MC19AC2X
MC19AC2-12	
MC24AC2-12	MC24AC2X

SERVICE Manual

AIR CONDITIONER



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1. Precautions

1. Warning: Prior to repair, disconnect the power cord from the circuit breaker.

2. Use proper parts: Use only exact replacement parts. (Also, we recommend replacing parts rather than repairing them.)

3. Use the proper tools: Use the proper tools and test equipment, and know how to use them. Using defective tools or test equipment may cause problems later-intermittent contact, for example.

4. Power Cord: Prior to repair, check the power cord and replace it if necessary.

5. Avoid using an extension cord, and avoid tapping into a power cord. This practice may result in malfunction or fire.

6. After completing repairs and reassembly, check the insulation resistance.
   Procedure: Prior to applying power, measure the resistance between the power cord and the ground terminal. The resistance must be greater than 30 megaohms.

7. Make sure that the grounds are adequate.

8. Make sure that the installation conditions are satisfactory.
   Relocate the unit if necessary.

9. Keep children away from the unit while it is being repaired.

10. Be sure to clean the unit and its surrounding area.

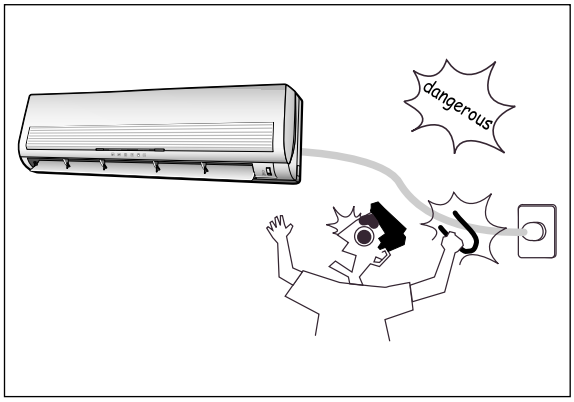


Fig. 1-1 Avoid Dangerous Contact

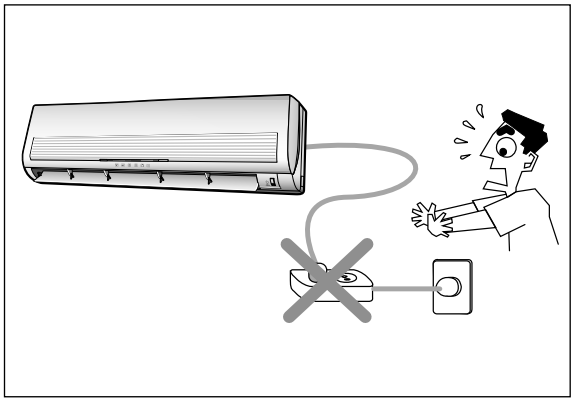


Fig. 1-2 No Tapping and No Extension Cords

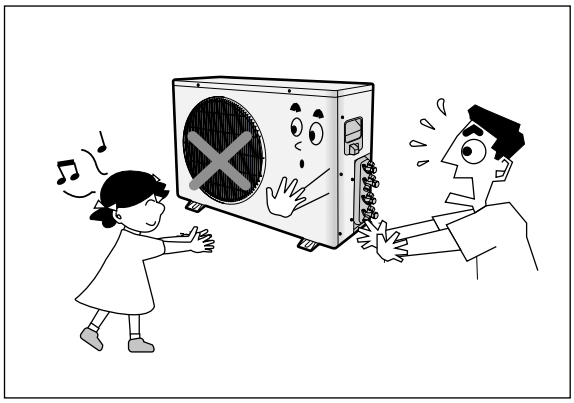


Fig. 1-3 No Kids Nearby!

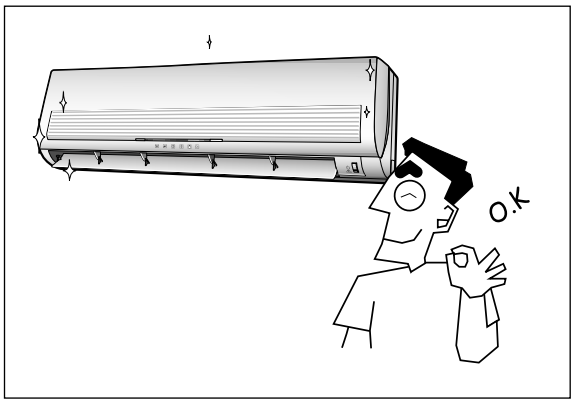


Fig. 1-4 Clean the Unit

MEMO

2. Product Specifications

2-1 Table

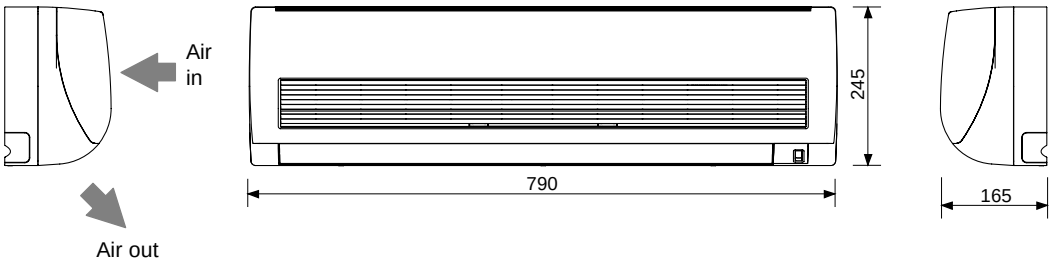
Item				Model	MC18AC2		MC19AC2			MC24AC2	
					INDOOR UNIT	OUTDOOR UNT	INDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
					MC18AC2-09	MC18AC2X	MC19AC2-07	MC19AC2-12	MC19AC2X	MC24AC2-12	MC24AC2X
Type					Wall-Mounting Multi Split						
Perfor-mance	Cooling			kW	2.65	5.3	2.05	3.5	5.55	3.5	7
				BTU/h	9,042	18,084	6,995	11,942	18,937	11,942	23,884
				Kcal/h	2,279	4,558	1,763	3,009	4,772	3,009	6,018
	Dehumidifying			ℓ/h	1.2	-	0.9	1.5	-	1.5	-
	Air volume			m³/min	6.7	-	6	8	-	8	-
	Noise			dB	40	55	39	42	55	42	60
	Power			ø-V-Hz	1-220-240V~, 50Hz						
Power	Power Consumption			W	940	1,880	830	1,170	2,000	1,190	2,380
	Operating Current			A	4.2	8.4	3.7	5.1	8.8	5.2	10.4
	Starting Current			A	25		30			30	
	Power Cord (Option)				2.5 x 3core		2.5 x 3core			2.5 x 3core	
	Connection Cable (Option)				1.0 x 4core		1.0 x 4core			1.0 x 4core	
	Fuse Capacity			A	3.15	-	3.15	3.15	-	3.15	-
Size	Outer Dimension		W x H x D	mm	790x245x165	880x638x310	790x245x165	790x245x165	880x638x310	790x245x165	1000x798x310
				inch	31.1x9.64x6.50	34.65x25.1x12.2	31.1x9.64x6.50	31.1x9.64x6.50	34.65x25.1x12.2	31.1x9.64x6.50	39.37x31.42x12.2
	Weight			kg	7.7	60	7.7	7.7	60	7.7	69
	Refrigerant pipe		Liquid	OD(mm)xL(m)	ø6.35x5	-	ø6.35x5	ø6.35x5	-	ø6.35x5	-
			Gas	OD(mm)xL(m)	ø9.52x5	-	ø9.52x5	ø9.52x5	-	ø9.52x5	-
	Drain hose			OD(mm)xL(m)	ø18.0x2	-	ø18.0x2	ø18.0x2	-	ø18.0x2	-
	Compressor	Type			-	Rotary	-	-	Rotary	-	Rotary
		Model name			-	A:G4A097JU1EP B:G4A097JU1EP	-	-	A:G4A080JU1EP B:G8C124JU1EL	-	A:G8C124JU1EL B:G8C124JU1EL
		Capacitor			-	A:35μF 450VAC B:35μF 450VAC	-	-	A:30μF 450VAC B:35μF 450VAC	-	A:35μF 450VAC B:35μF 450VAC
		Motor	Type		-		-	-		-	
			Rated output	W	-	A:925,B:925	-	-	A:820, B:1060	-	A:1060, B:1060
	Blower	Type			Resin	Steel	Resin	Resin	Steel	Resin	Steel
		Motor	Type		Cross-flow	Propeller	Cross-flw	Cross-flow	Propeller	Cross-flow	Propeller
			Rated output	W	22	30	22	22	30	22	74
Heat exchange					2Row 12Step	2Row 24Step	2Row 12Step	2Row 12Step	2Row 24Step	2Row 12Step	2Row 36Step
Refrigerant control unit					A/B-Unit:Capillary tube		A/B-Unit:Capillary tube			A/B-Unit:Capillary tube	
Freezer oil capacity				cc	-	A:280 B:280	-	-	A:280 B:500	-	A:500 B:500
Refrigerant to charge(R410A)					A-Unit:650g, B-Unit:650g		A-Unit:500g, B-Unit:970g			A-Unit:850g, B-Unit:850g	
Protection device					-	A:RAC12131-9622 B:RAC12131-9622	-	-	A:RAC12126-9622 B:RAC12128-9622	-	A:RAC12128-9622 B:RAC12128-9622
Cooling test condition					Indoor unit : DB27˚C WB19˚C Outdoor unit : DB35˚C WB24˚C						
Maximum operation condition					Indoor unit : DB32˚C WB23˚C Outdoor unit : DB43˚C WB26˚C						

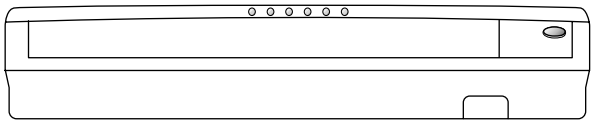
2-2 Dimensions

2-2-1 Indoor Unit

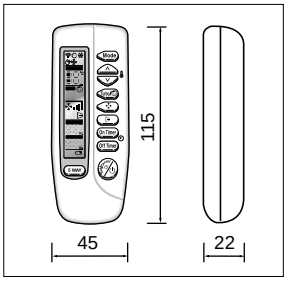
(Unit : mm)

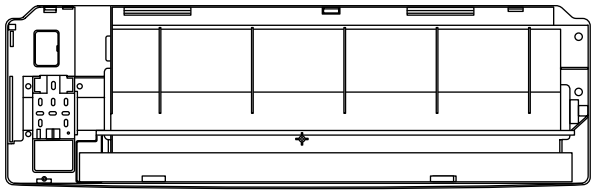
(Front view)



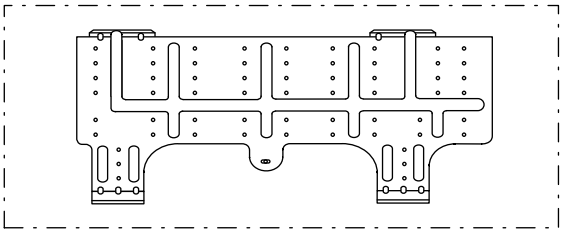


(Remote control)





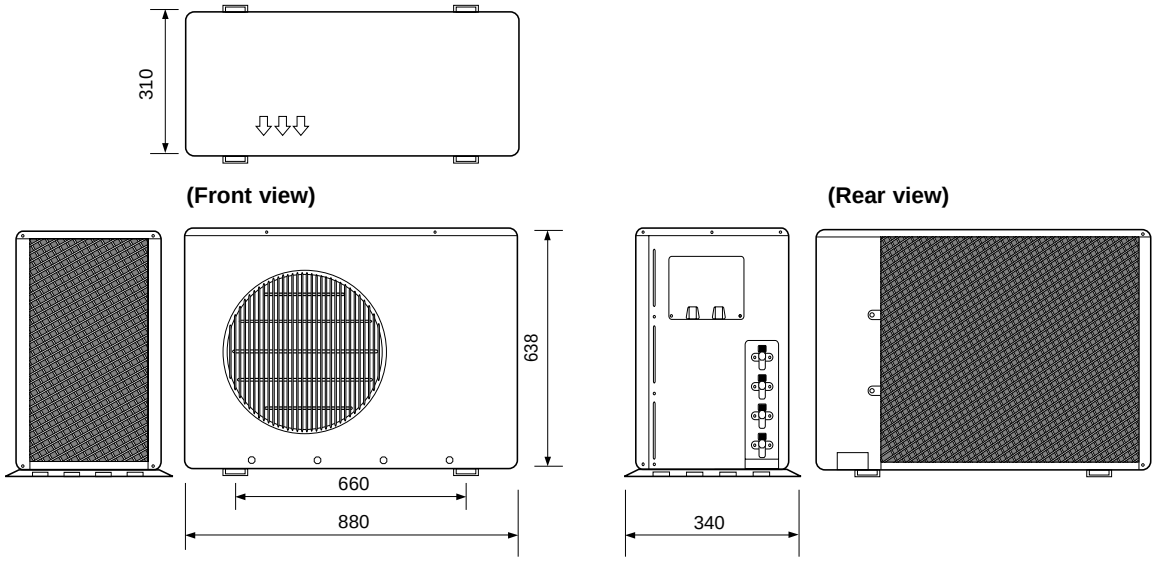
Installation plate



2-2-2 Outdoor Unit

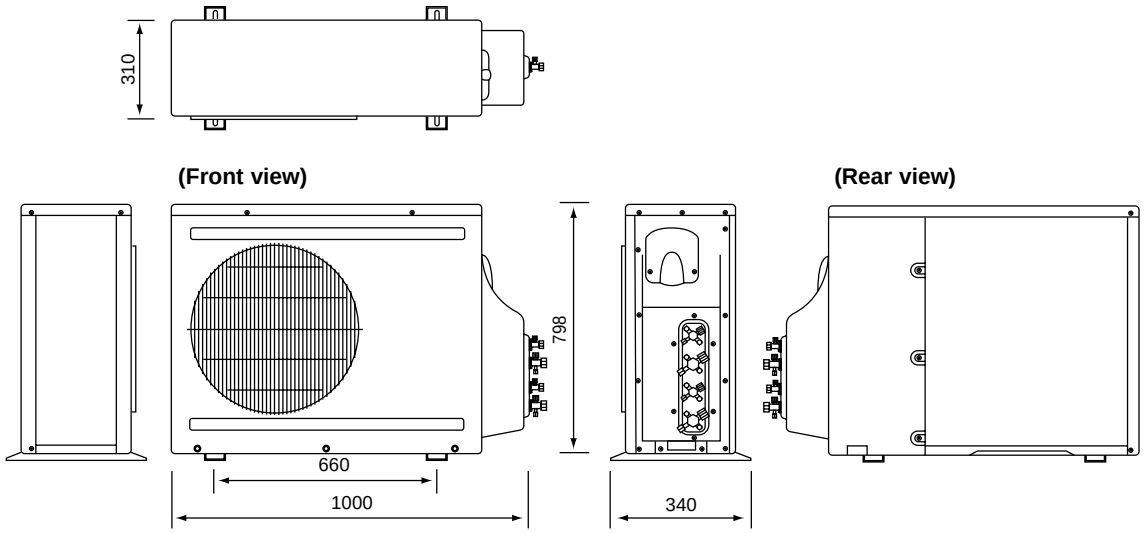
■ MC18AC2X / MC19AC2X

(Unit : mm)



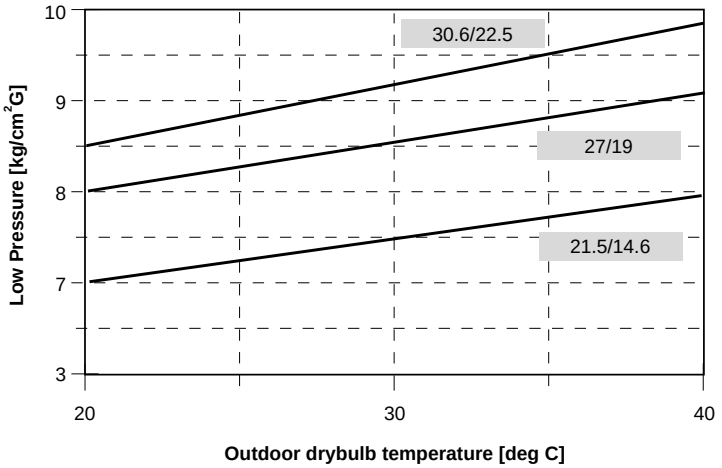
■ MC24AC2X

(Unit : mm)

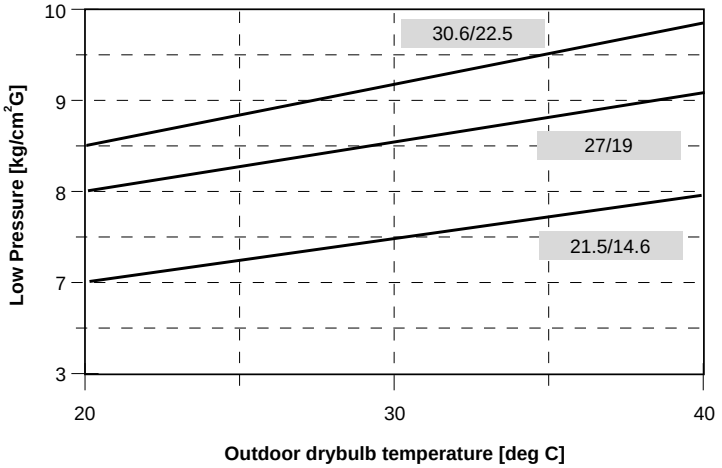


2-3 Pressure Graph

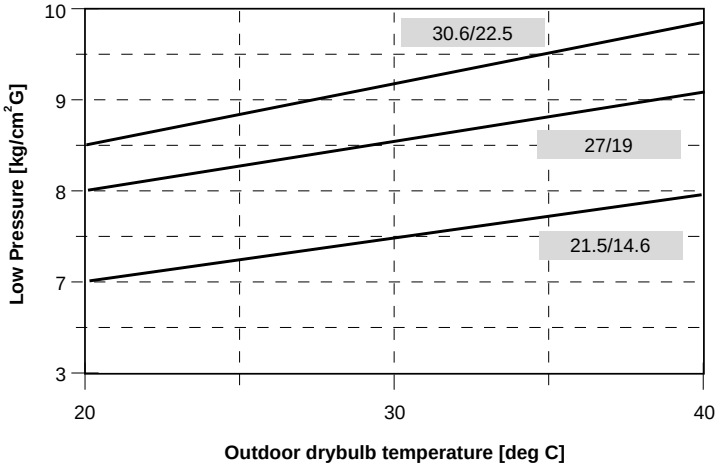
■ MC19AC2-07



■ MC18AC2-09



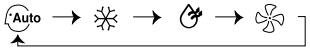
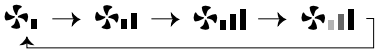
■ MC19AC2-12 / MC24AC2-12



3. Operating Instructions and Installation

3-1 Operating Instructions

3-1-1 The Feature of Key in remote controller

NO	NAMED OF KEY	FUNCTION OF KEY
1		Power On/Off button to start and stop airconditioner or timer set up.
2	(UP)	Temp. up button. To increase the temperature by the pressing the temperature button.
	(DOWN)	Temp. down button. To decrease the temperature by the pressing the temperature button.
3		Each time you press this button Mode is changed in the following order  : Auto Mode : Dry Mode : Cool Mode : Fan Only
4		Press TURBO until the appearance. The air condition cools the room as quickly as possible. After 30minutes, the air, the airconditioner is reset automatically to the previous mode.
		Press until the appearance. The sleep timer can be used when you are cooling your room to switch the air conditioner off automatically after a period of six hours.
5		Each time you press this button, FAN SPEED is changed in the following order. 
6		Adjust air flow vertically.
7		The ON Timer enables you to **switch on** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel the On Time, press the (Set/Cancel) button.
8		The Off Timer enables you to **switch off** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel the Off Time, press the (Set/Cancel) button.
9		To select the 5 way function with the remote control, press the 5 way button one or more times until the desired mode is selected. Each time you press the 5 way button. Each 5 way indicator on the indoor unit comes on in order.

3-1-2 Name & Function of Key in remote controller

1. AUTO MODE : In this mode, operation COOL mode is selected automatically by the room temperature of initial operation.

Operation Type	Room Temp	
Cool Operation	Tr≥25°C+ΔT	Compressor ON
	Tr<24°C+ΔT	Compressor OFF

   ΔT= -1°C, -2°C, 0°C+1°C+2°C
   ΔT is controlled by setting temperature up / down key of remote controller
   * FAN SPEED : AUTO

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C~30°C)

3. DRY MODE : Has 3 states, each determined by room temperature. The unit operates in DRY mode.
   *Compressor ON / OFF Time is controlled compulsorily(can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

4. TURBO MODE : This mode is available in AUTO, COOL, DRY, FAN MODE. When this button is pressed at first, the air conditioner is operated “powerful” state for 30 minutes regardless of the set temperature, room temperature. When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you pressed the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

5. SLEEP MODE : Sleep mode is available only in COOL mode. The operation will stop after 6 hours.
   *The setting temperature is automatically raised by 1°C each 1hour When the temperature has been raised by total of 2°C, that temperature is maintained.

6. FAN SPEED : Manual (3 step), Auto (4 step) Fan speed automatically varies depending on both the difference between setting and the room temperature.

7. COMPULSORY OPERATION : For operating the air conditioner without the remote controller.
   *AUTO : The operating is the same function that AUTO MODE in the remote controller. And each time you press the button the 5WAY function is changed as follow. STD → NATURE → POWER → SAVING → SILENCE → POWER OFF
   ❊ STD(standard)( ) : General operation Mode
   ❊ NATURE( ) : The unit is operated according to health pattern control
   ❊ POWER( ) : The unit is operated in powerful state
   ❊ SAVING( ) : The unit is operated in power saving state
   ❊ SILENCE( ) : The unit is operated quietly
   Each mode has Auto, Cool and SLEEP operation designed in advance.

8. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Memory louver : When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop
   *Swing Set : Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.

9. 24-Hour ON/OFF Real Setting Timer. :
   The air conditioner is turned ON at a specified time using On Timer.
   OFF TIMER : The air Conditioner is turned OFF at a specified time using Off Timer.
   *ON TIMER : Only timer LED lights on.
   *OFF TIMER : Both timer and operation LED lights on.

10. SELF Diagnosis

Check Point	LED DISPLAY					
	STD	NATURE	POWER	SAVING	SILENCE	TIMER
Indoor unit room temperature sensor error(open or short)	○	○	○	○	○	◑
Indoor unit heat exchanger temperature sensor error(open or short)	◑	○	○	○	○	◑
Indoor fan mal function	○	◑	○	○	○	○
EEPROM error	◑	◑	○	○	○	◑
Option error(option wasn't set up or option data error)	◑	◑	◑	◑	◑	◑

◑ : LED blinking ○ : LED off

11. BUZZER SOUND : Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

3-2 Installation

3-2-1 Selecting Area for Installation

Select an area for installation that is suitable to the customer's needs.

3-2-1(a) Indoor Unit

1. Make sure that you install the indoor unit in an area providing good ventilation. It must not be blocked by an obstacle affecting the airflow near the air inlet and the air outlet.
2. Make sure that you install the indoor unit in an area allowing good air handling and endurance of vibration of the indoor unit.
3. Make sure that you install the indoor unit in an area where there is no source of heat or vapor nearby.
4. Make sure that you install the indoor unit in an area from which hot or cool air is spread evenly in a room.
5. Make sure that you install the indoor unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (at least 1 meter).
6. Make sure that you install the indoor unit in an area which provides easy pipe connection with the outdoor unit, and easy drainage for condensed water.
7. Make sure that you install the indoor unit in an area which is large enough to accommodate the measurements shown in figure on the next page.

3-2-1(b) Outdoor Unit

1. Make sure that you install the outdoor unit in area not exposed to the rain or direct sun light.
   (Install a separate sunblind if exposed to direct sun light.)
2. Make sure that you install the outdoor unit in area allowing good air moment, not amplifying noise or vibration, especially to avoid disturbing neighbors.
   (Fix the unit firmly if it is mounted in a high place.)
3. Make sure that you install the outdoor unit in area providing good ventilation and which is not dusty. It must not be blocked by any obstacle affecting the airflow near the air inlet and the air outlet.
4. Make sure that you install the outdoor unit in area free from animals or plants.
5. Make sure that you install the outdoor unit in area not blocking the traffic.
6. Make sure that you install the outdoor unit in area easy to drain condensed water from the indoor unit.
7. Make sure that you install the outdoor unit in area which provides easy connection
   within the maximum allowable length of a coolant pipe(10 meters).

Note

1. Add 10 grams of refrigerant (R410A) for every 1 meter if the pipe length exceeds the standard pipe length of 5 meters.
2. Maintain a height between the indoor and outdoor units of less than 3 meters.

8. Make sure that you install the outdoor unit in an area which is large enough to accommodate the measurements shown in figure on the next page.

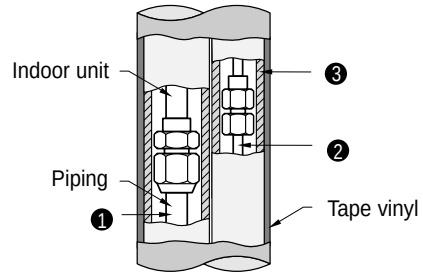
3-2-1(c) Remote Control Unit

1. Make sure that you install the remote control unit in an area free from obstacles such as curtains etc, which may block signals from the remote control unit.
2. Make sure that you install the remote control unit in an area not exposed to direct sunlight, and where there is no source of heat.
3. Make sure that you install the remote control unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (at least 1 meter).

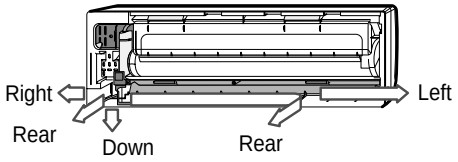
Caution :
It is harmful to the air conditioner if it is used in the following environments: greasy areas (including areas near machines), salty areas such as coast areas, areas where sulfuric gas is present such as hot spring areas. Contact your dealer for advice.

3-2-2 Installation diagram of indoor unit and outdoor unit

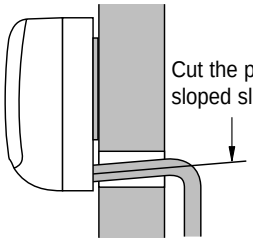
A Indoor unit gas leak test check point

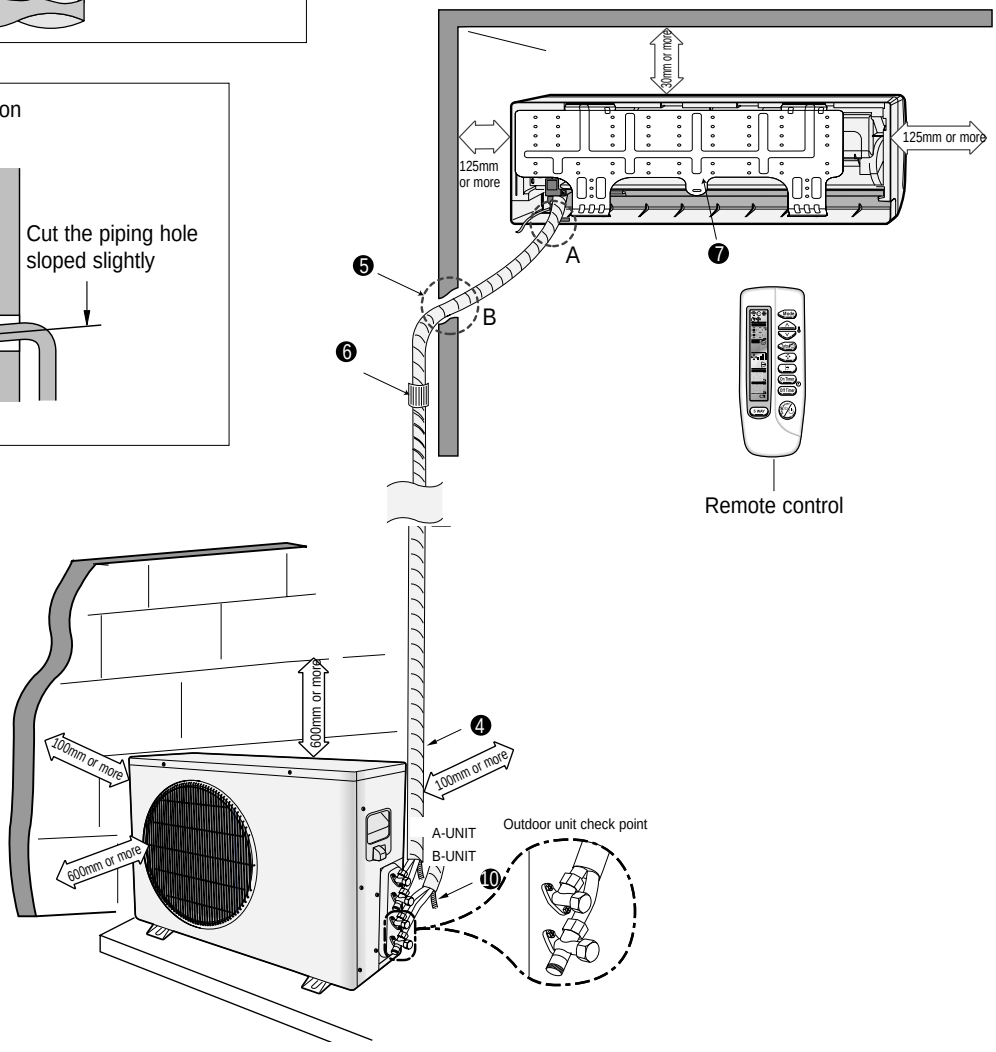


Piping may be laid to the rear, left, right or down .



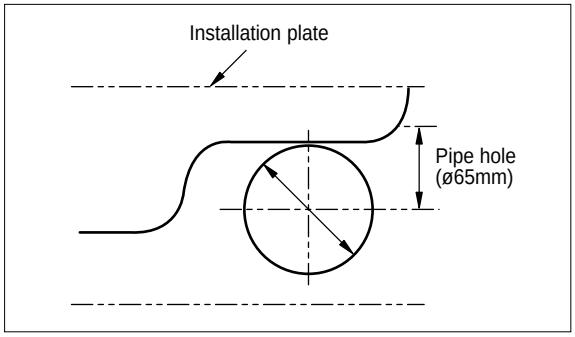
B Drain hose installation





❶	Piping (Liquid) 1/4"	❻	Clamper tube
❷	Piping (Gas) 3/8"	❼	Installation plate
❸	Installation tube	❽	Pipe-connection
❹	Vinyl tape	❾	Screw
❺	Putty	❿	Drain hose

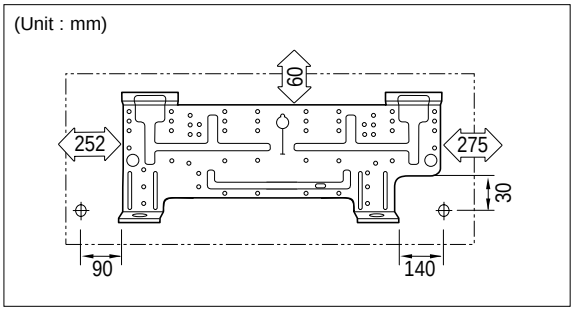
3-2-2(a) Fixing the Installation Plate



1. Determine the position of the pipe and drain hose hole using the right figure and drill the hole with an inner diameter of 65mm so that it slants slightly downwards.

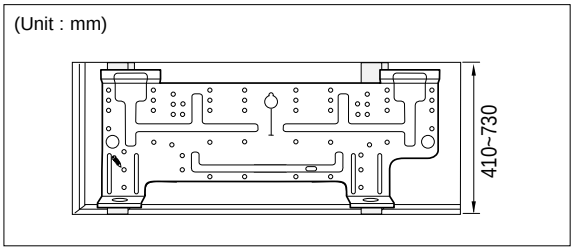
2. **If you are fixing the indoor unit to a… Then follow Steps…**

Wall	**3.**
Window frame	**4 to 6.**



3. Fix the installation plate to the wall in a manner appropriate to the weight of the indoor unit.

   If you are mounting the plate on a concrete wall with anchor bolts, the anchor bolts must not project by more than 20mm.

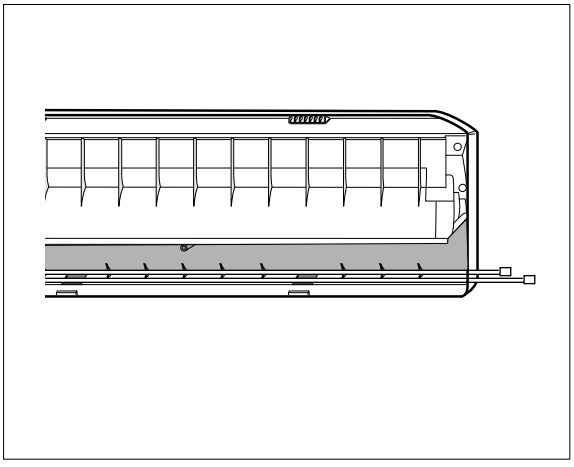


4. Determine the positions of the wooden uprights to be attached to the window frame.

5. Attach the wooden uprights to the window frame in a manner appropriate to the weight of the indoor unit.

6. Using tapped screws, attach the installation plate to the wooden uprights, as illustrated in the last figure opposite.

3-2-2(b) Purging the Unit



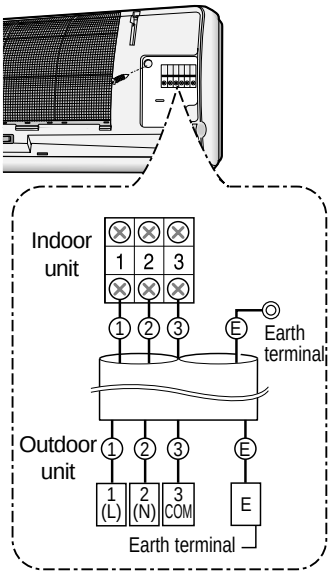
On delivery, the indoor unit is loaded with an inert gas. All this gas must therefore be purged before connecting the assembly piping. To purge the inert gas, proceed as follows.

Unscrew the caps at the end of each pipe.

Result : All inert gas escapes from the indoor unit.

- **To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the caps completely until you are ready to connect the piping.**

3-2-2(c) Connecting the Assembly Cable.

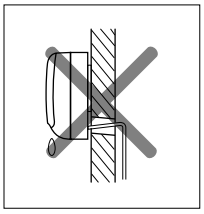


The outdoor unit is powered from the indoor unit via the assembly cable. If the outdoor unit is more than five metres away from the indoor unit, the cable must first be extended to a maximum of ten metres.

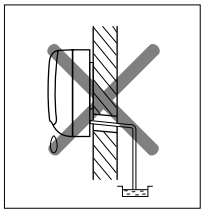
1. Extend the assembly cable if necessary.
2. Open the front grille by pulling on the tabs on the lower right and left sides of the indoor unit.
3. Remove the screw securing the connector cover.
4. Pass the assembly cable through the rear of the indoor unit and connect the assembly cable to terminals N1 to 1.
   - Each wire is labelled with the corresponding terminal number.
5. Firmly fix the ass'y cable with clamp wire holder.
6. Pass the other end of the cable through the 65mm hole in the wall.
7. Replace the connector cover, carefully tightening the screw.
8. Close the front grille.
9. For further details on how to plug the other end of the assembly cable into the outdoor unit, refer to page 3-8.

3-2-2(d) Installing and Connecting the Indoor Unit Drain Hose

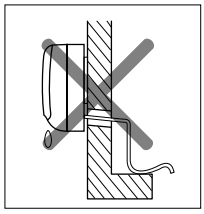
Care must be taken when installing the drain hose for the indoor unit to ensure that any condensation water is correctly drained outside. When passing the drain hose through the 65mm hole drilled in the wall, check that none of the following situations occur.



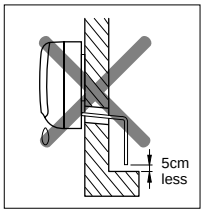
The hose must NOT slope upwards.



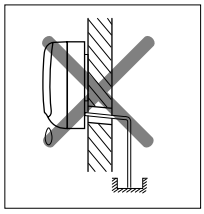
The end of the drain hose must NOT be placed in water.



Do NOT bend the hose in different directions.



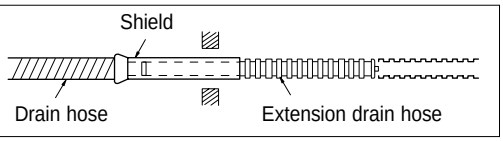
Keep a clearance of at least 5cm between the end of the hose and the ground.



Do NOT place the end of the drain hose in a hollow.

To install the drain hose, proceed as follows.

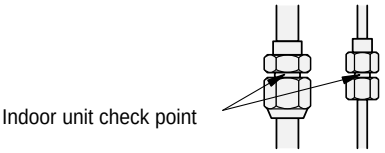
1. If necessary, connect the 2-metre extension to the drain hose.
2. If you are using the extension, insulate the inside part of the extension drain hose with a shield.
3. Pass the drain hose under the refrigerant piping, taking care to keep the drain hose tight.
4. Pass the drain hose through the hole in the wall, making sure that it is sloping downwards, as shown in the illustrations above.



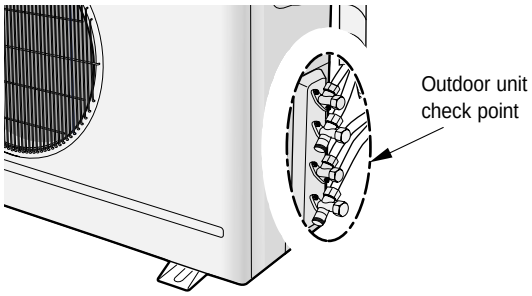
The hose will be fixed permanently into position once the whole installation has been tested for gas leaks;

3-2-2(e) Outdoor unit installation

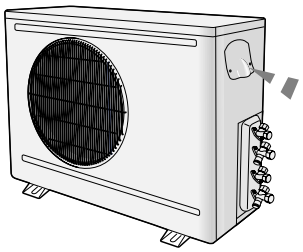
GAS LEAK TEST



Check for gas leak from the flare nut connections with leak detector.



WIRING CONNECTION



Two electric cables must be connected to the outdoor unit:

- ***The assembly cable connecting the indoor unit to the outdoor unit.***
- ***The power cable connecting the auxiliary circuit breaker to the outdoor unit.***

1 Remove the terminal board cover on the side of the outdoor unit.

2 Connect the assembly cable to terminals 1 to 5 and connect the power cable to terminals A to B.

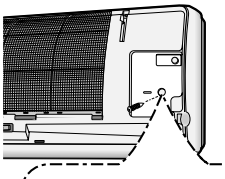
- ► Each wire is labelled with the corresponding terminal number.
- ► Ensure the wire number of the indoor unit and the terminal number of the outdoor unit.

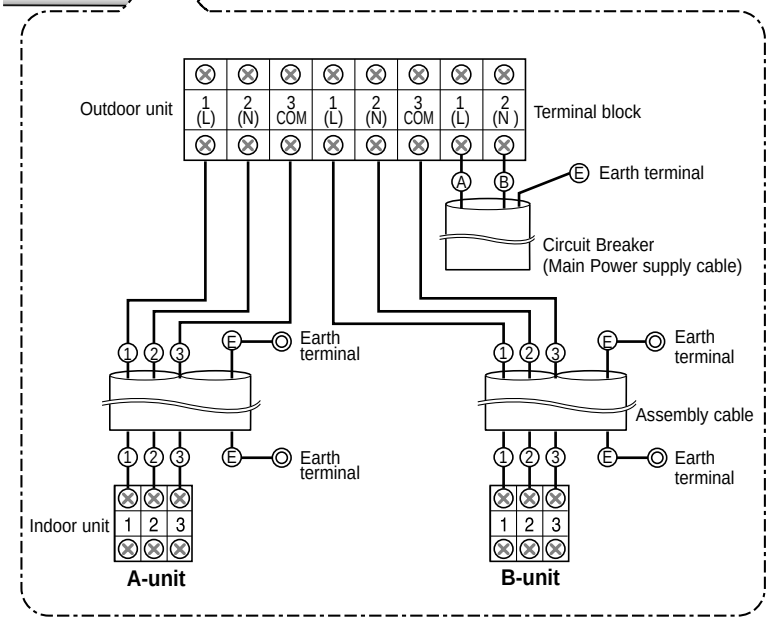
3 Connect the earth wires to the earth terminals.

- ► Refer to the page opposite for further details on how to check that earthing is correct.

4 Replace the terminal board cover, carefully tightening the screw.

5 Connect the power cable to the auxiliary circuit breaker.

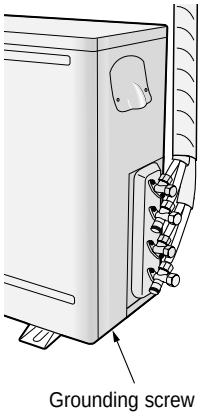




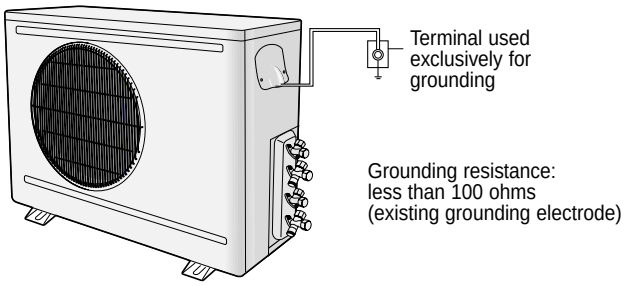
Grounding

(The parts for this work are optional)

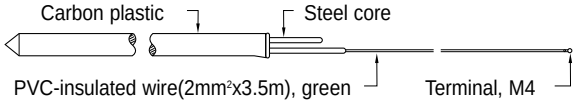
- A grounding terminal can be found on the outdoor unit as illustrated.



1. When an existing grounding terminal is avilable.
   (Grounding wire of ø1.6mm or larger<solid wire>or 2mm^2 or larger <standard wire>)

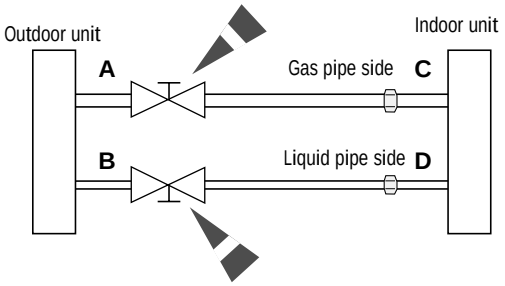


2. Use of a grounding electrode.
   - Specifications of grounding electrode.



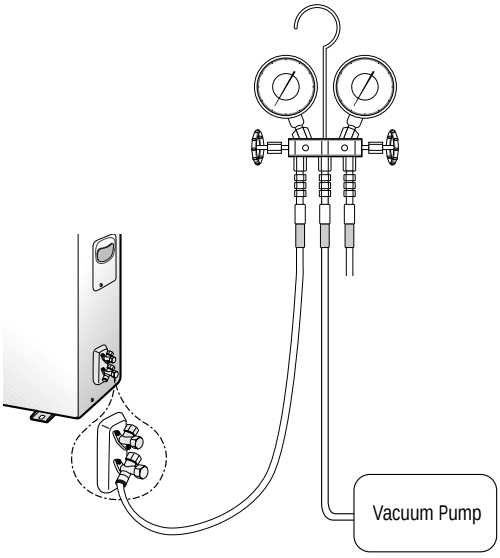
3-2-2(f) Air-Purge Procedure

1. Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.



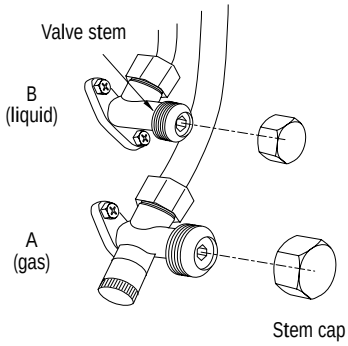
2. Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port (3/8” Packed valve) as shown at the figure.

3. Open the valve of the low pressure side of manifold gauge counter-clockwise.



4. Purge the air from the system using vacuum pump for about 30 minutes.
   - After that, please recheck that pressure is staloilization.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

5. Set valve cork of both liquid side and gas side of packed valve to the open position.



6. Mount the valve stem nuts to the 2-way and 3-way valve. And mount the service port cap to 3-way valve.

7. Check for gas leakage.
   - At this time, especially check for gas leakage from the 3-way valve’s stem nuts, and from the service port cap.

3-2-2(g) Refrigerant Refill

• Refill an air-conditioner with refrigerant when refrigerant has been leaked at installing or using.

1. Vacuum system with pump (for new installation, leakage).

↓

2. Turn the 3-way valve clockwise to close, connect the pressure gauge(low pressure side) to the service valve, and open the 3-way valve again.

↓

3. Connect the tank to refill with Refrigerant

↓

4. Set the unit to Low pressure checking mode.
   * Press the ON/OFF switch for 5 second.
   * All lamps blink on the indoor unit.

↓

5. Check the pressure indicated by the pressure gauge(low pressure side).
   * Refer to Low pressure graph.

↓

6. Open the refrigerant tank and fill with refrigerant until the rated pressure is reached.
   * It is recommended not to pour the refrigerant in too quickly, but gradually while operating a pressure valve.

↓

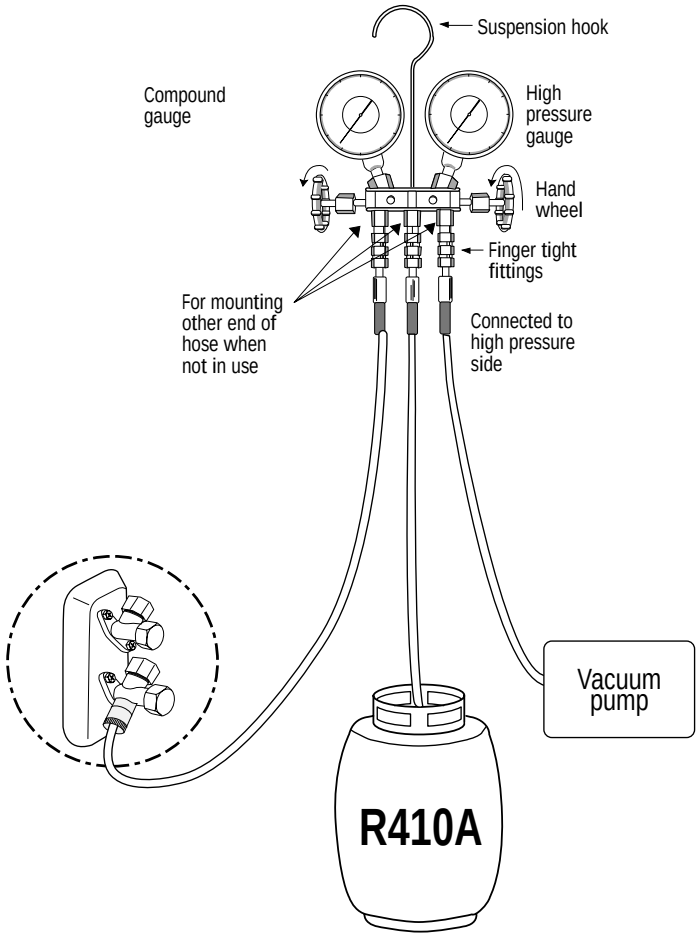
7. Stop operation of the air conditioner.

↓

8. Close the 3-way valve, disconnect the pressure gauge, and open the 3-way valve again.

↓

9. Close the cap of each valve.



3-2-2(h) Refrigerant Adjustment

Class	For installation		For service	
Connection Pipe Length	Air-Purge Method	Refrigerant Adjustment	Air-Purge Method	Refrigerant Quantity
5m Max.	Refer to the detailed Air-Purge Procedure	Unnecessary	Purge air using a vacuum pump	refer to specification sheet
5~10m		Add 10g of refrigerant R410A(Add as liquid state) for every 1m.		Add 10g of refrigerant R410A(Add as liquid state) for every 1m

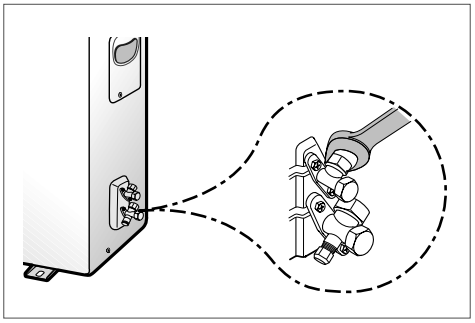
3-2-2(i) Flare nut fixing torque

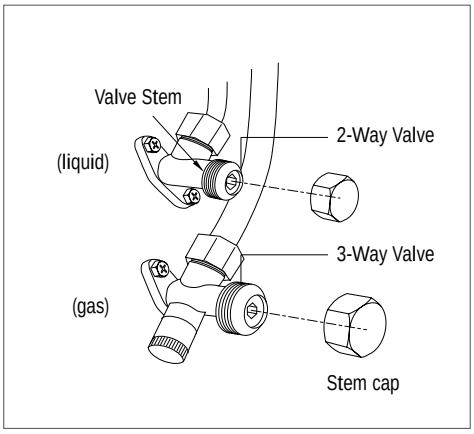
Outer diameter	Torque (kg-cm)	
	Fixing Torque	Final Torque
ø 6.35 (Liquid Side)	160	200
ø 9.52 (Gas Side)	300	350
ø 12.7 (Gas Side)	500	550

3-2-2(j) "Pump down" Procedure

- Pump down shall be carried out when an evaporator is replaced or when the unit is relocated in another area.

1. Remove the caps from the 2-way valve and the 3-way valve.
2. Turn the 3-way valve clockwise to close and connect a pressure gauge(low pressure side) to the service valve, and open the 3-way valve again.
3. Set the unit to cool operation mode. (Check if the compressor is operating.)
4. Turn the 2-way valve clockwise to close.
5. When the pressure gauge indicates "0" turn the 3-way valve clockwise to close.
6. Stop operation of the air conditioner.
7. Close the cap of each valve.





Relocation of the air conditioner

- Refer to this procedure when the unit is relocated.

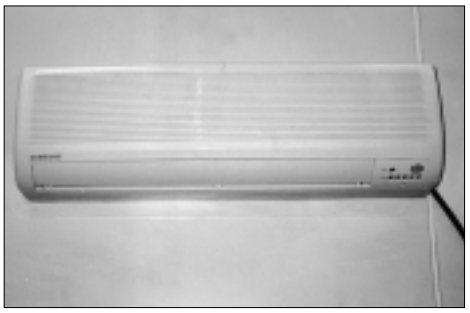
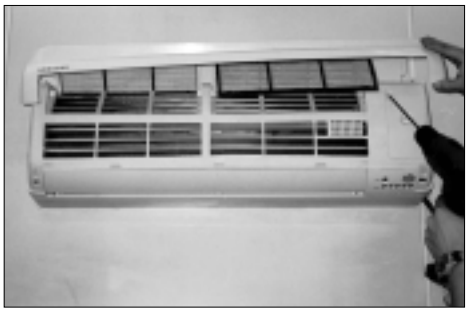
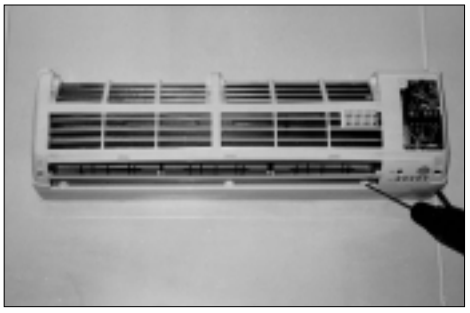
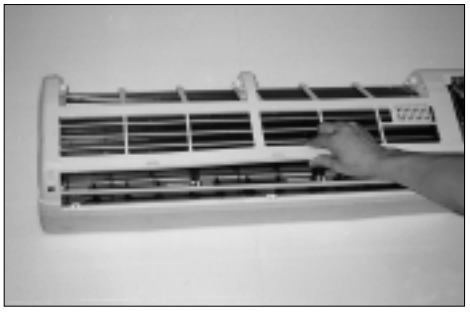
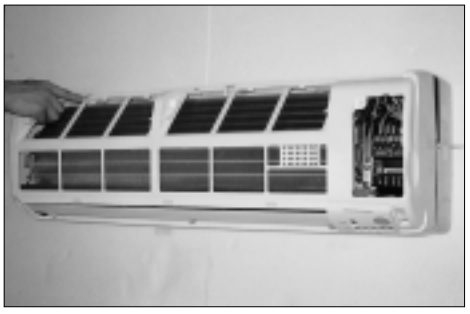
1. Carry out the pump down procedure (refer to the details of 'pump down').
2. Remove the power cord.
3. Disconnect the assembly cable from the indoor and outdoor units.
4. Remove the flare nut connecting the indoor unit and the pipe.
   At this time, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
5. Disconnect the pipe connected to the outdoor unit.
   At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
6. Make sure you do not bend the connection pipes in the middle and store together with the cables.
7. Move the indoor and outdoor units to a new location.
8. Remove the mounting plate for the indoor unit and move it to a new location.

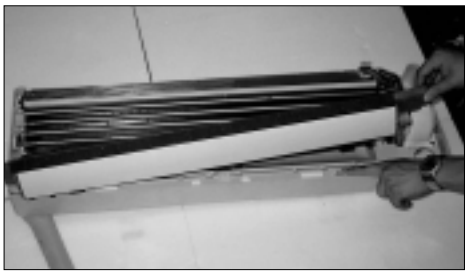
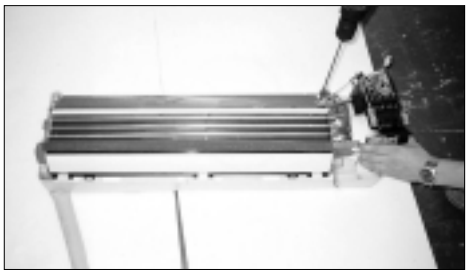
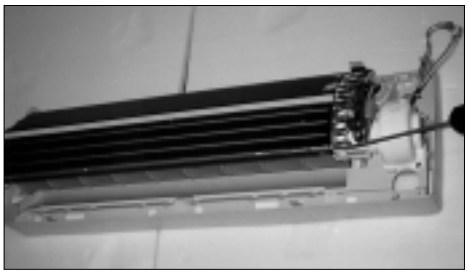
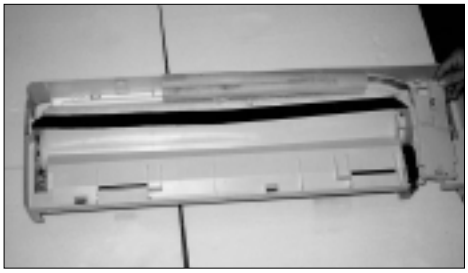
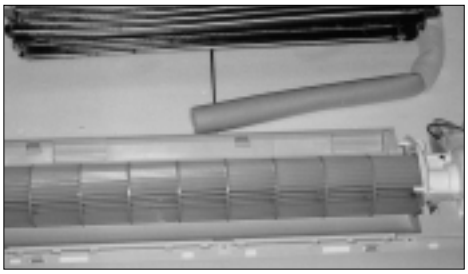
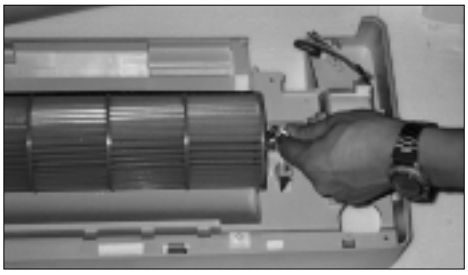
MEMO

4. Disassembly and Reassembly

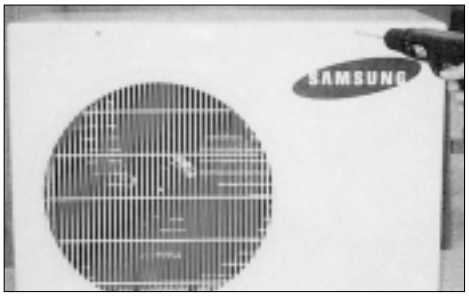
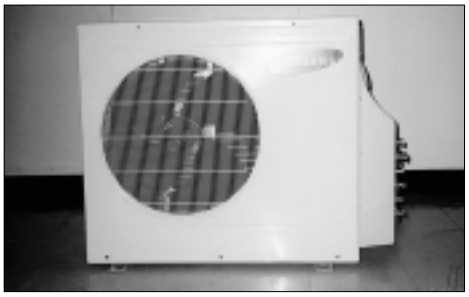
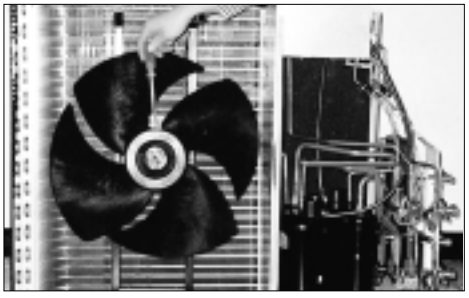
Stop operation of the air conditioner and remove the power cord before repairing the unit.

4-1 Indoor Unit

No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and block the main power. 2) Separate tape of front panel upper.	
		3) Contract the second finger to the left, and right handle and pull to open the inlet grille. 4) Take the left and right filter out. *Taking off the deodorizing filter. 5) Loosen one of the right fixing screw and separate the terminal cover. 6) Loosen three fixing screws of front grille.	
			
		7) Pull the upper left and right of discharge softly for the outside cover to be pulled out.	
		8) Pull softly the lower part of discharge and push it up. **Caution;** Assemble the front panel and fix the hooks of left and right.	

No	Parts	Procedure	Remark
2	Ass'y Tray Drain.	1) Do "1"above. 2) Take all the connector of PCB upper side out. (Inclusion Power cord) 3) Separate the outdoor unit connection wire from the terminal block. 4) If pulling the Main PCB up. It will be taken out.	
3	Electrical Parts (Main PCB)	1) Do "1", "2" above. Separate the drain hose from the extension drain hose. 2) Pull tray drain out from the back body.	
4	Heat Exchanger	1) Do "1" and "2", "3" above. 2) Loosen two fixing earth screws of right side. 3) Separate the connection pipe. 4) Separate the holder pipe at the rear side. 5) Loosen the three fixing screws of right and left side. 6) Lifting the heat exchanger up a little to push the up side for separation from the indoor unit.	 
5	Fan Motor and Cross Fan	1) Do "1", "2", "3", "4" above. 2) Loosen the fixing two screws and separate the motor holder. 3) Loosen the fixing screw of fan motor. (By use of M3 wrench) 4) Separate the fan motor from the fan. 5) Separate the fan from the left holder bearing.	 

4-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Cabinet	1) Turn off the unit and remove the power cable. 2) Remove the top cover. 3) Remove the control box cover. 4) Unplug the ass'y cable. 5) Remove the cabi-side. 6) Remove the cabi-front. * When you assemble the parts, check if the each parts and electric connectors are fixed firmly.	**<MC18AC2X, MC19AC2X>**  **<MC24C2X>** 
2	Fan Motor & Propeller Fan	1) Do Procedure “1” above. 2) Remove the nut flange. (Turn to the right to remove as it is a left turned screw) 3) Disassemble the propeller fan.	**<MC18AC2X, MC19AC2X>** **<MC24AC2X>** 

MEMO

5. Troubleshooting

5-1 Items to be checked first

1) The input voltage should be rating voltage ±10% range.
   The airconditioner may not operate properly if the voltage is out of this range.

2) Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 3 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the airconditioner may not operate properly.

3) When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the airconditioner.

NO	Operation of air conditioner	Explanation
1	The STD operation indication LED blinks when a power plug of the indoor unit is plugged in for the first time.	It indicates power is on. The LED stops blinking if the operation ON/OFF button on the remote control unit is pushed.
2	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the IN DOOR FAN should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
3	Fan speed setting is not allowed in AUTO or DRY mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is 5 steps is selected automatically in AUTO mode.
4	Compressor stops operation intermittently in DRY mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
5	Timer LED only of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.

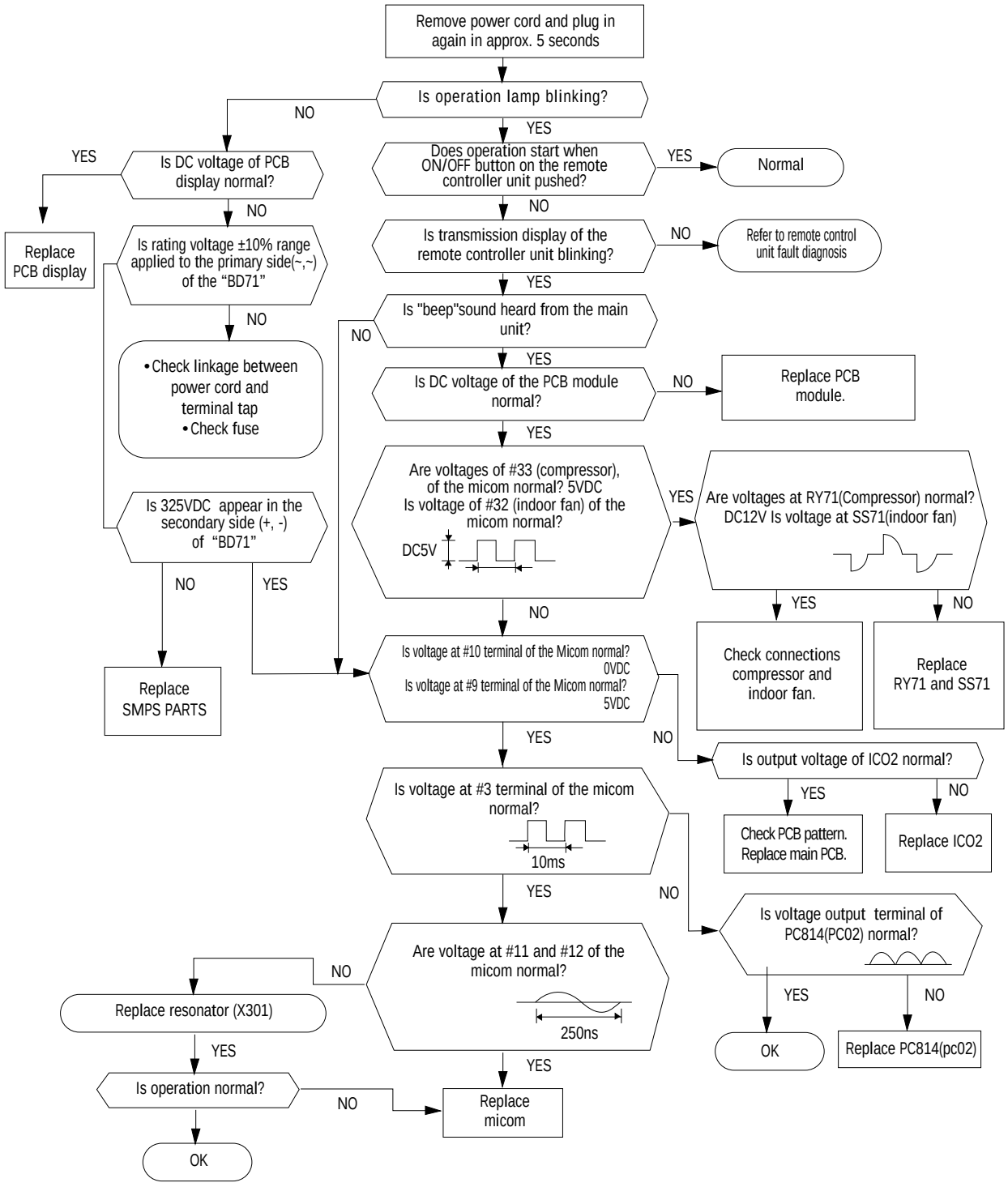
4) Indoor unit observes operation condition of the air conditioner, and displays self diagnosis details on the display panel.

NO	Display	Self Diagnosis
1	STD LED blinking (1Hz)	Restore from power failure (input initial power)
2	TIMER LED blinking (1Hz)	Indoor unit Room sensor Error (open or short)
3	STD and TIMER LED blinking (1Hz)	Indoor unit heat exchanger temperature sensor Error (open or short)
4	BIO LED blinking (1Hz)	Indoor fan malfunctioning (for speed is Below 450rpm)
5	STD, BIO and TIMER LED blinking(1HZ)	EEPROM Error
6	All LED blinking(1HZ)	Option Error (option wasn't setup or option data error)

5-2-1 No Power (completely dead)-Initial diagnosis

1) Checklist :
   (1) Is input voltage normal?
   (2) Is AC power linked correctly?
   (3) Is output voltage of DC regulator IC KA78L05 (IC02) normal? (4.5VDC-5.5VDC)

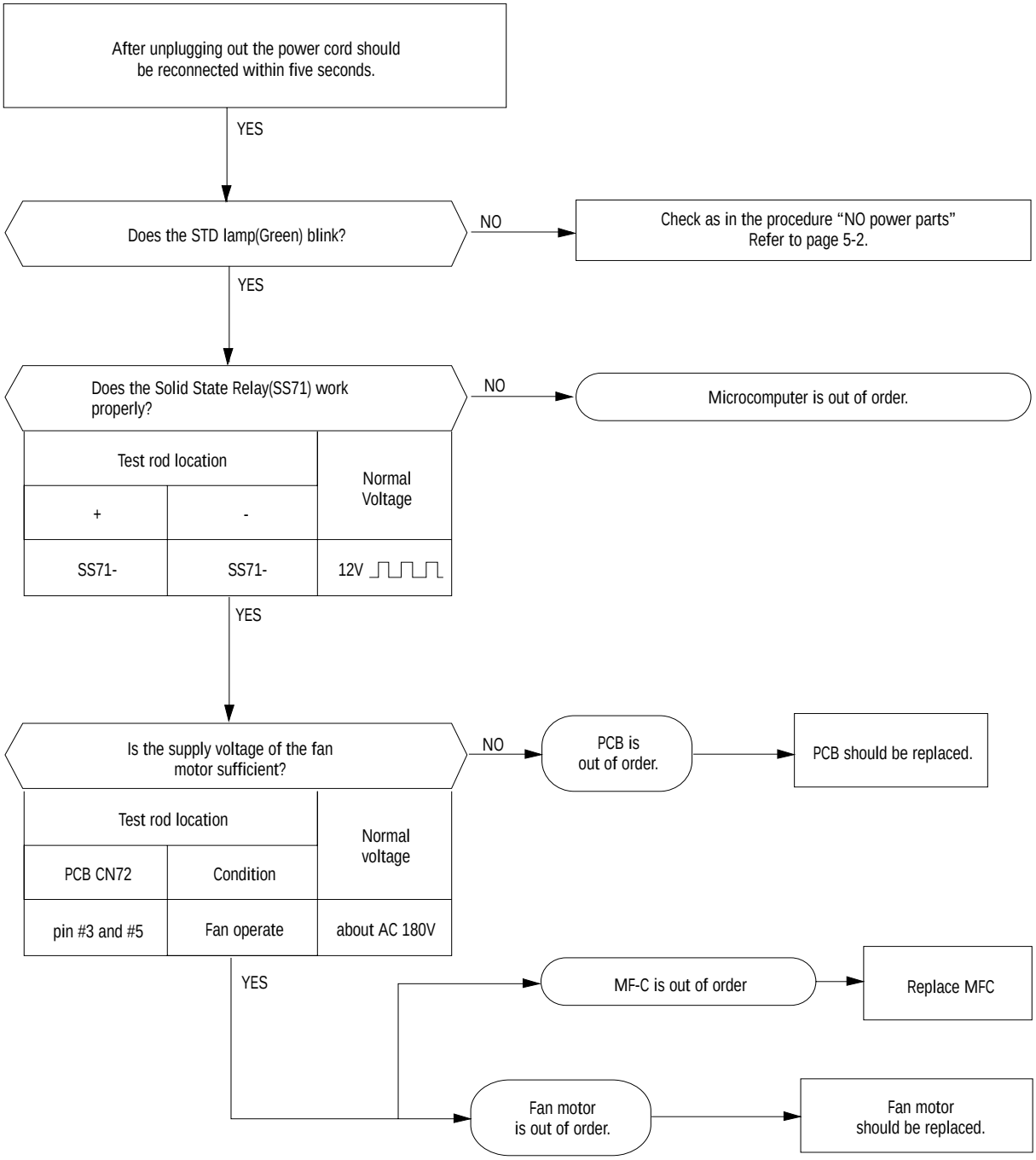
2) Troubleshooting procedure



5-2-2 When the Indoor Unit Fan Does Not Operate. (Initial Diagnosis)

1) Checklist :
   (1) Is the indoor unit fan motor properly connected with the connector (CN72)?
   (2) Is the AC voltage correct?
   (3) Is HALL IC in indoor fan motor properly connected with the connector (CN42)?
   (4) Is the running capacitor (CR71) properly connected with PCB board?

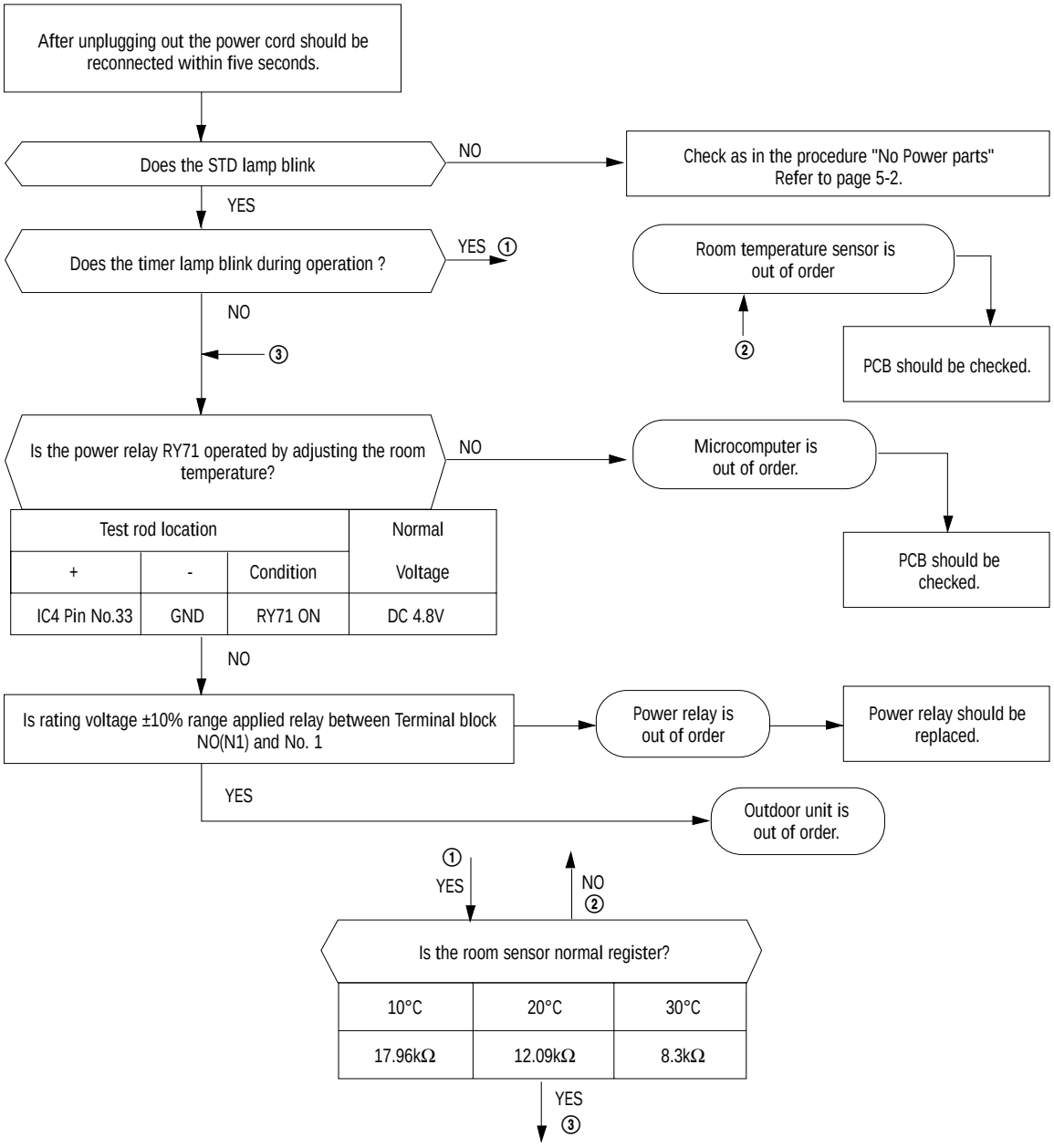
2) Troubleshooting procedure



5-2-3 When the Outdoor Unit Does Not Operate. (Initial Diagnosis)

1) Checklist :
   (1) Is input voltage normal?
   (2) Is the set temperature of the remote control higher than room temperature in COOL mode?
   (3) Is the POWER IN connector (CN71) linked correctly?
   (4) Is the outdoor unit properly connected with the TERMINAL BLOCK connector((N1), 1)?

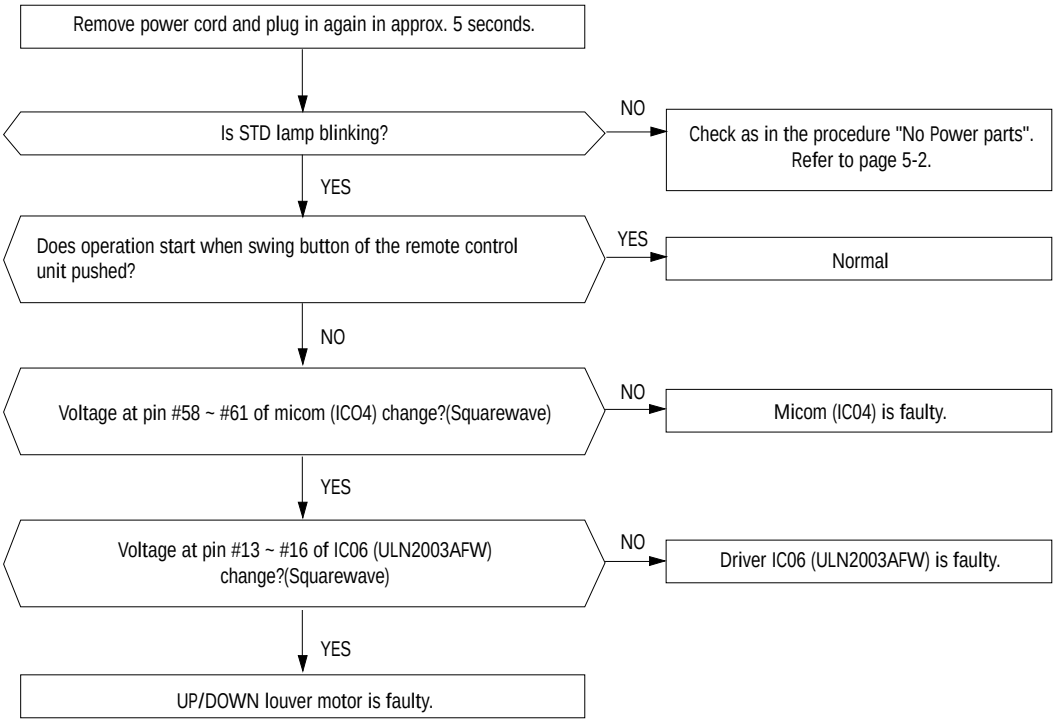
2) Troubleshooting procedure



5-2-4 When the UP/DOWN Louver Motor Does Not Operate. (Initial Diagnosis)

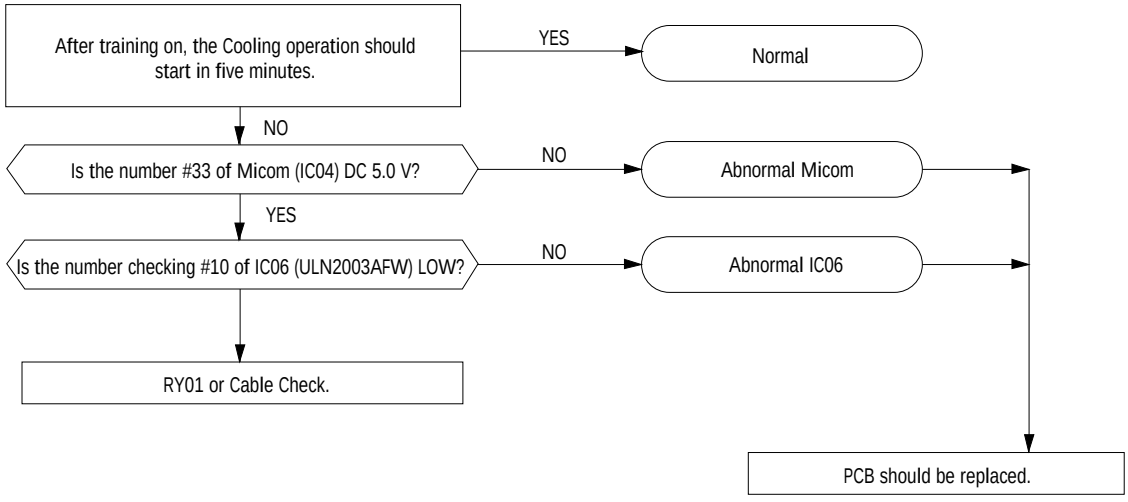
1) Checklist :
   (1) Is input voltage normal?
   (2) Is the UP / DOWN louver motor properly connected with the connector (CN61)?

2) Troubleshooting procedure


Remove power cord and plug in again in approx. 5 seconds.
Is STD lamp blinking?
NO
Check as in the procedure "No Power parts". Refer to page 5-2.
YES
Does operation start when swing button of the remote control unit pushed?
YES
Normal
NO
Voltage at pin #58 ~ #61 of micom (ICO4) change?(Squarewave)
NO
Micom (IC04) is faulty.
YES
Voltage at pin #13 ~ #16 of IC06 (ULN2003AFW) change?(Squarewave)
NO
Driver IC06 (ULN2003AFW) is faulty.
YES
UP/DOWN louver motor is faulty.

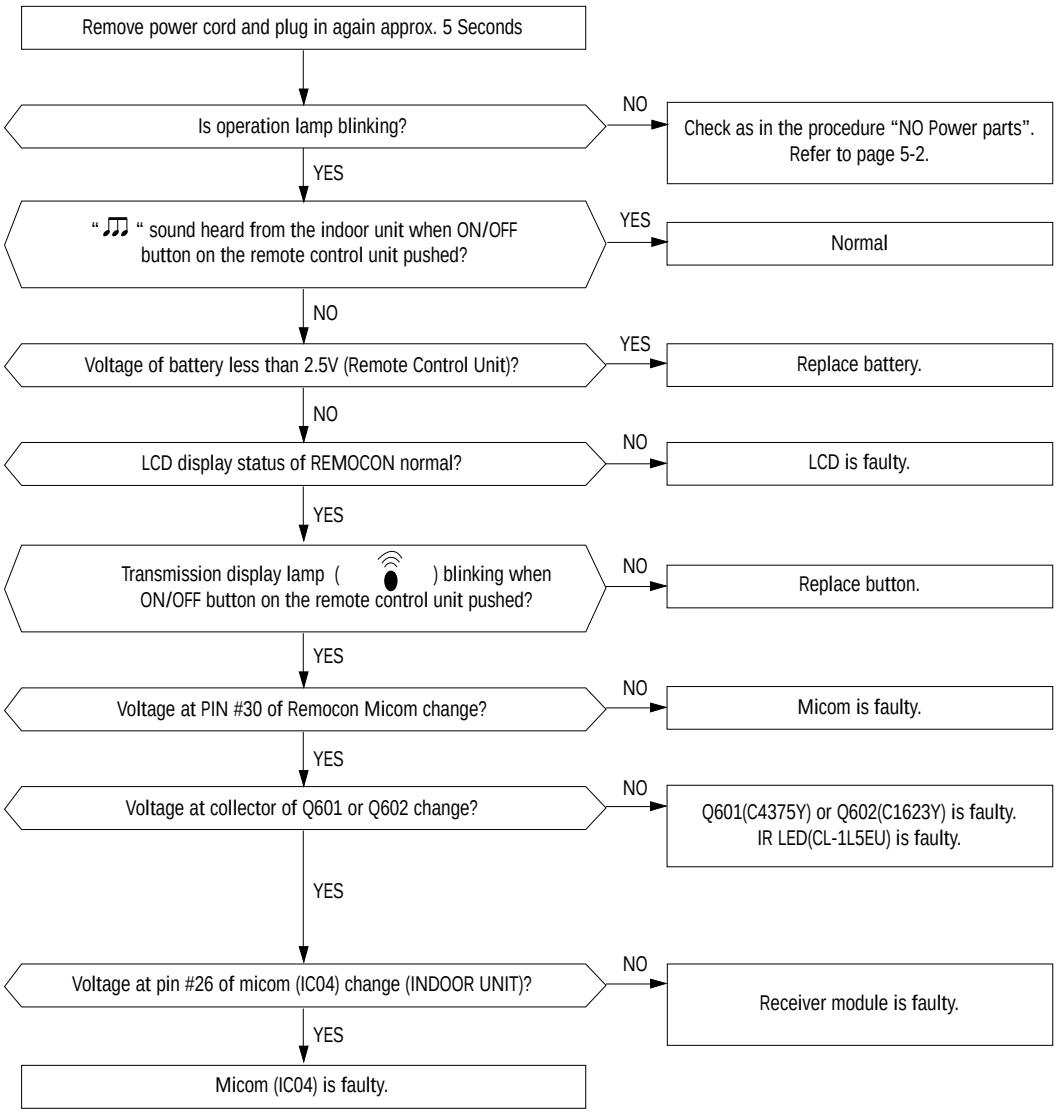
5-2-5 In the mode, When there is no cool air current. Check this first;

(1) Is the set temperature of Remote Control lower than room temperature in Cool mode?
(2) Is the Indoor PCB properly connected with the CN71 connector?



5-2-6 If Operation By Remote Control Unit Is Impossible. (Initial Diagnosis)

1) Troubleshooting procedure


Remove power cord and plug in again approx. 5 Seconds
Is operation lamp blinking?
NO
Check as in the procedure “NO Power parts”. Refer to page 5-2.
YES
“ ♫ “ sound heard from the indoor unit when ON/OFF button on the remote control unit pushed?
YES
Normal
NO
Voltage of battery less than 2.5V (Remote Control Unit)?
YES
Replace battery.
NO
LCD display status of REMOCON normal?
NO
LCD is faulty.
YES
Transmission display lamp ( ) blinking when ON/OFF button on the remote control unit pushed?
NO
Replace button.
YES
Voltage at PIN #30 of Remocon Micom change?
NO
Micom is faulty.
YES
Voltage at collector of Q601 or Q602 change?
NO
Q601(C4375Y) or Q602(C1623Y) is faulty.
IR LED(CL-1L5EU) is faulty.
YES
Voltage at pin #26 of micom (IC04) change (INDOOR UNIT)?
NO
Receiver module is faulty.
YES
Micom (IC04) is faulty.

5-3 PCB Inspection

5-3-1 Cautions for Part Replacement

1. The human body carries much static electricity. Before touching a part for repair, replacement or the similar purpose, be sure to touch a grounded metallic portion by hand to let the static electricity go through the metallic portion to the earth.
   Especially when handling any micro computer or IC, carefully remove such static electricity before touching them.

2. When repairing any part on a work bench, be sure to place an insulative sheet on the bench and always keep the sheet surface neat without any metal fragments. If any such fragment touches a part, a secondary trouble will possibly be caused in the part.

3. Before replacing any parts, be sure to turn off the power supply. If such replacement is done with the power supply kept on, an electric shock, short circuit or destruction of a part may result.

4. During replacement or repair of a part, carefully handle it : The printed circuit board has fine lead wires (jumper wires) and glass-made parts (diode) on its substrate.
   So if a circuit board is roughly handled, such lead wires and parts will be easily broken or damaged by bending or shock.

5. When soldering the lead wires of any new part, be sure to polish them using an emery paper or the like before solding them.
   Since the lead wires of any new part are covered with an oxide film, solder cannot adhere to the lead wires if not polished.

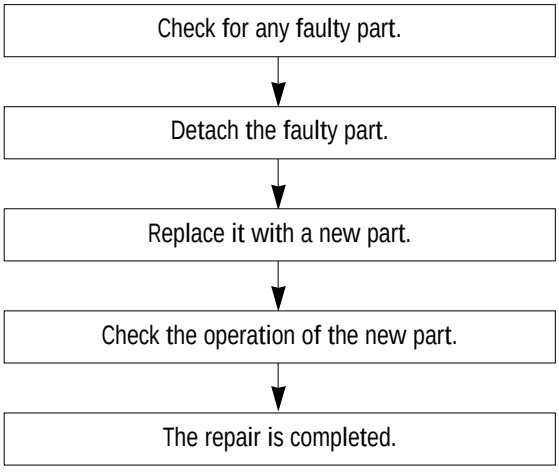
6. When soldering any part, care should be exercised not to apply any high-wattage soldering iron to the part for a long time. Some parts are of so low a heat resistance that they may be broken or have the properties changed if a soldering iron is so applied (Otherwise, the pattern may possibly be separated and raised).

7. The heat of the soldering iron should be transferred to the entire object to be soldered. If the solder pieces are not well fused due to insufficient transfer of the heat from the soldering iron, no satisfactory electrical continuity can be assured even if the soldered objects appear well connected to each other.

8. The solder used should be limited to a minimum. If excessive solder is used, it will cause inter-pattern contact, which may cause malfunction of the circuit.

5-3-2 Procedure

The parts should be replaced in the following procedure.


Check for any faulty part.
Detach the faulty part.
Replace it with a new part.
Check the operation of the new part.
The repair is completed.

5-3-3 Detailed Procedure

No.	Malfunction	Checking point (symptoms)	Causes
1	Pull out the power plug from the AC terminal and confirm the fuse on the PCB assembly	1. Is the broken(open)?	▻ Voltage over ▻ Indoor unit fan motor short-circuit
2	Turn the power on.	Voltage check	SMPS circuit is faulty
		1. AC voltage at BD71(~,~)? : rating voltage ± 10% range	▻ SMPS circuit is faulty
		2. DC voltage at BD71(+,-)? : about 325[v] ± 10%	
		3. DC voltage at IC02 : IN-GND ➔ DC12[v] : OUT-GND ➔ DC5[v]	
		4. Voltage waveform at Q201 : collector-GND ➔ squarewave	▻ PC02, R202-R205
3	Set the TURBO mode	Voltage check	SMPS circuit is faulty
		1. check voltage of IC06 (pin#10,pin#8) : relay on ➔ 0.7[v] : relay off ➔ 12[v]	▻ IC06 is faulty
		2. Voltage at terminal block ((N1) -1) ➔ rating voltage	▻ RY71 is faulty

5-4 Fault Diagnosis of Major Parts

<table>
<tr><th>Parts</th><th colspan="2">Diagnosis</th></tr>
<tr><td rowspan="2">Temp.Sensor

Heat ex. Sensor</td><td colspan="2">Measure resistance with a tester.</td></tr>
<tr><td>Normal</td><td>
<table>
<tr><td>Ambient temperature</td><td>15°C</td><td>20°C</td><td>25°C</td><td>30°C</td><td>35°C</td><td>40°C</td></tr>
<tr><td>Resistance of thermistor[KΩ]</td><td>14.68</td><td>12.09</td><td>10</td><td>8.31</td><td>6.94</td><td>5.83</td></tr>
</table>
</td></tr>
<tr><td rowspan="5">Indoor Fan Motor</td><td>Abnormal</td><td>∞, OΩ … open or short</td></tr>
<tr><td colspan="2">Measure resistance between terminals (CN72) with a tester</td></tr>
<tr><td>Normal</td><td>At ambient temperature (10°C ~ 30°C)
<table>
<tr><td colspan="2" rowspan="2">Between</td><td>Newmotech</td><td>Wellng</td><td>Jingjiang Tianma</td></tr>
<tr><td>PFS022WTVA</td><td>RPG21C</td><td>YFNPG22-4</td></tr>
<tr><td>Blue, Yellow</td><td>Main</td><td>410Ω ±10%</td><td>350Ω ±10%</td><td>370Ω ±10%</td></tr>
<tr><td>Blue, Red</td><td>Sub</td><td>325Ω ±10%</td><td>270Ω ±10%</td><td>300Ω ±10%</td></tr>
<tr><td colspan="2">Out Power</td><td colspan="2">15W</td></tr>
</table>
</td></tr>
<tr><td>Abnormal</td><td>∞, OΩ … open or short</td></tr>
<tr><td rowspan="3">Outdoor Fan Motor</td><td colspan="2">Measure the voltage between ground and signal wire of the fan motor</td></tr>
<tr><td>Normal</td><td>
<table>
<tr><td>between</td><td>Voltage</td></tr>
<tr><td>Gray, Orange</td><td>0.5V~4.5V</td></tr>
<tr><td>Yellow, Orange</td><td>5V</td></tr>
</table>
</td></tr>
<tr><td>Abnormal</td><td>Abnormal if voltage does not change from 0V to 5V.</td></tr>
<tr><td rowspan="3">Stepping Motor

(UP/DOWN swing motor)</td><td>Normal</td><td>At ambient temperature (10°C ~ 30°C)
<table>
<tr><td colspan="2" rowspan="2">Between</td><td>Newmotech</td><td>Wellng</td><td>SUNGSHIN</td></tr>
<tr><td>ASS020WTVA</td><td>YDK25-6W</td><td>IC-9625SLC7C</td></tr>
<tr><td>Blue, Yellow</td><td>Main</td><td>270Ω ±10%</td><td>275Ω ±10%</td><td>250Ω ±10%</td></tr>
<tr><td>Blue, Red</td><td>Sub</td><td>350Ω ±10%</td><td>340Ω ±10%</td><td>340Ω ±10%</td></tr>
<tr><td colspan="2">Out Power</td><td colspan="2">25W</td></tr>
</table>
</td></tr>
<tr><td>Abnormal</td><td>∞, OΩ … open or short</td></tr>
<tr><td rowspan="3"></td><td colspan="2">Measure resistance between red wire and each terminal.</td></tr>
<tr><td>Normal</td><td>Approx. 300Ω at ambient temperature (20°C ~30°C)</td></tr>
<tr><td>Abnormal</td><td>∞, OΩ … open or short</td></tr>
</table>

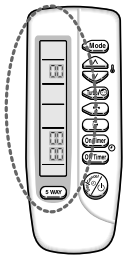
5-5 Set up the Model option

The Method for Setting up the model option with remocon

- **It is necessary to set up option code after replacing the main-PCB as a service parts.**
  Make sure that you can set up the option of code the remote controller after you replace the main PBA otherwise, the unit won't be working properly and all LED lamps on display will be flickering.

Step 1 : Preparing the remocon to main PCB option set

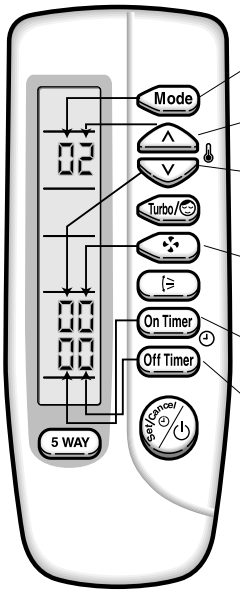
1st Remove the battery from the remocon.
2nd Press the temperature raise/down button simultaneously and insert the battery again.
3rd Make sure the remocon display shown as 00 00 00.



Step 2 : Second stage preparation of the remocon option set.

✵ **Note** ; In case the wrong letter has been selected, continue to press the button until the correct letter appears.

1st If the first stage number "0" appears on the display, proceed to the second stage.
2nd Every time the ① and ⑦ button, "0" and "1" each continue to appear.
3rd Whenever pressing the ②, ③, ④, ⑤, ⑥, ⑧, ⑨, ⑩, ⑪, ⑫ button, the number increase from 0~9(0123456789) and A, b, C, d, E, F each time.



① If the first number is 0, it is correct otherwise press Mode until 0 appear.

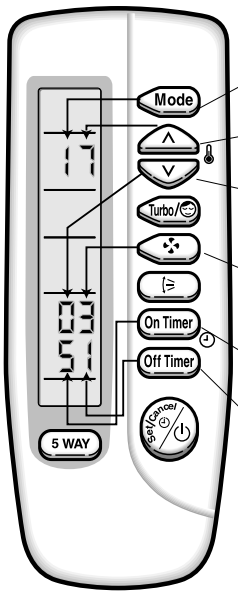
② When pressing the ∧ button 0~F appear on the display, select one of them.

③ When pressing the ∨ button 0~F appear on the display, select one of them.

④ When pressing the fan button 0~F appear on the display, select one of them.

⑤ When pressing the On Timer button 0~F appear on the display, select one of them.

⑥ When pressing the Off Timer button 0~F appear on the display, select one of them.



① If the first number is 1, it is correct otherwise press Mode until 1 appear.

② When pressing the ∧ button 0~F appear on the display, select one of them.

③ When pressing the ∨ button 0~F appear on the display, select one of them.

④ When pressing the fan button 0~F appear on the display, select one of them.

⑤ When pressing the On Timer button 0~F appear on the display, select one of them.

⑥ When pressing the Off Timer button 0~F appear on the display, select one of them.

Step 3 : Reconfirming option set after completion

(in case of ex. 020000-170351)

After pressing Mode selector for the 0 mode, the display shown as 02 00 00 .
After pressing Mode selector for the 1 mode, the display shown as 17 03 51 .

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound "Ding" or "Diriring" is heard and the first LED lamp on the left side is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote controller.
Second, Re-insert the battery into the remote controller.
Third, Press ON/OFF key with the direction of remote controller for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out and plug in again and pressing ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for it's model.

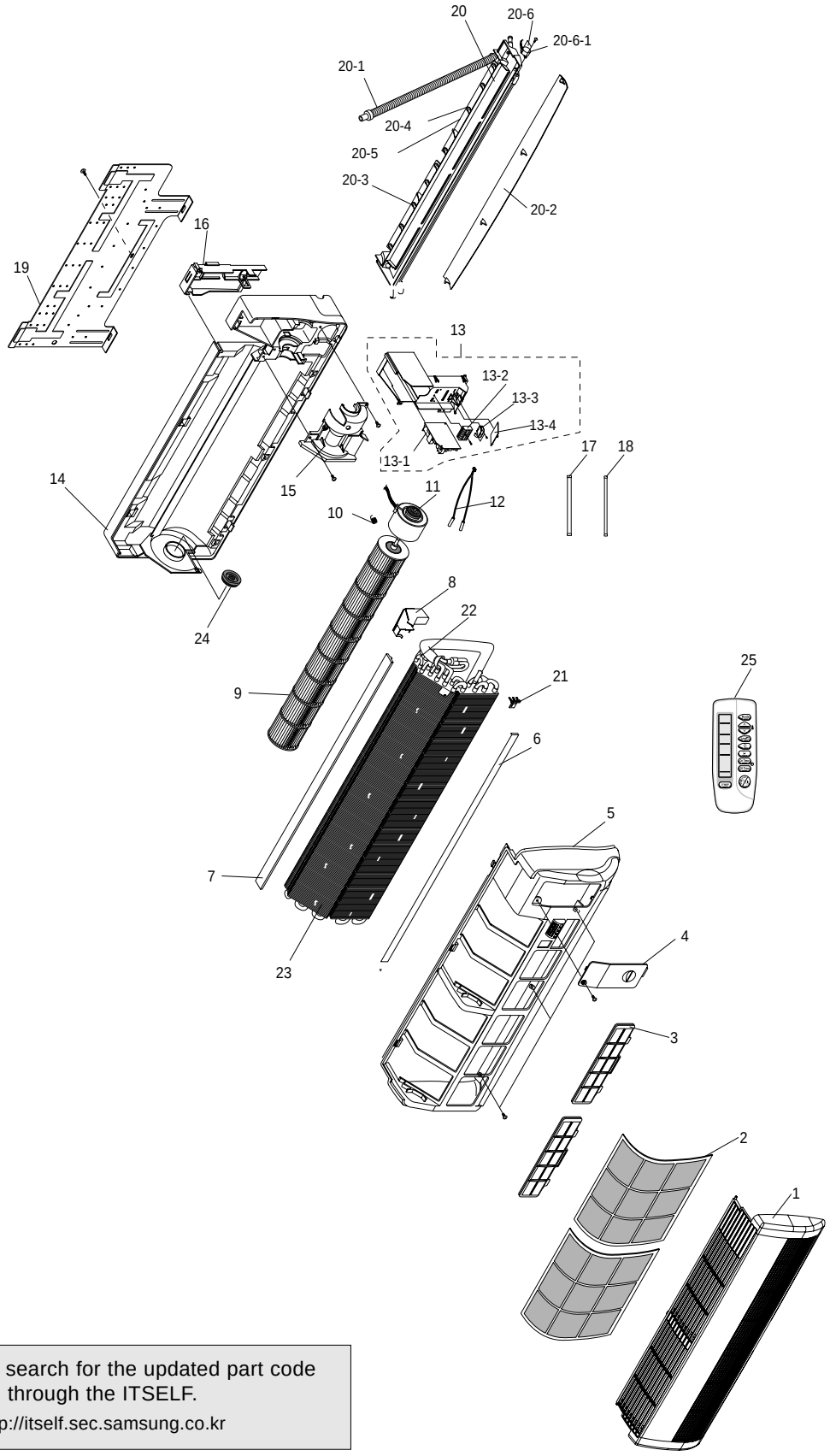
<Table of the option code>

MODEL	OPTION CODE
MC18AC2-09	020000-10021D
MC19AC2-07	020000-1000D9
MC19AC2-12	020000-100340
MC24AC2-12	020000-100340

MEMO

6. Exploded Views and Parts List

6-1 Indoor Unit



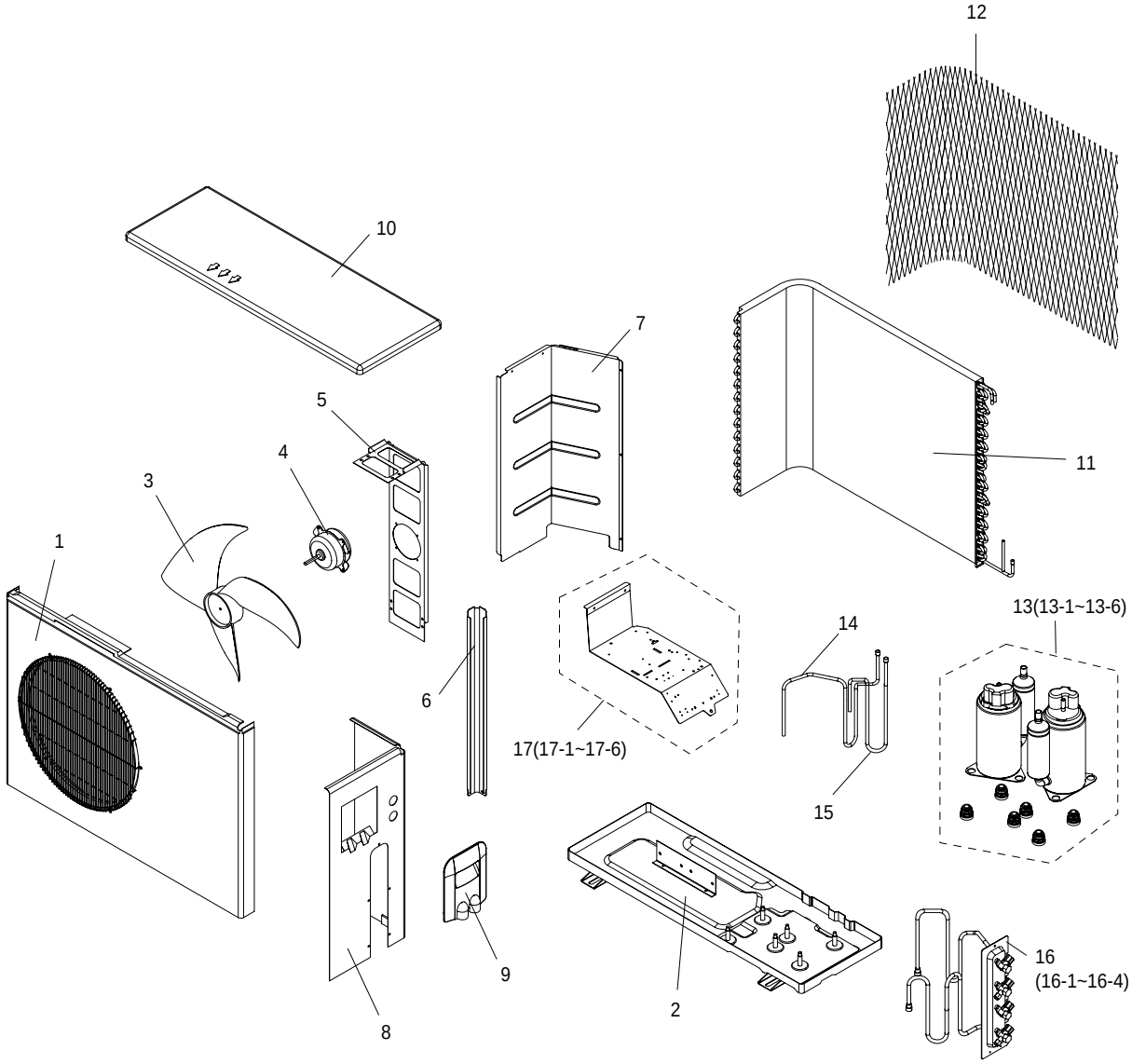
You can search for the updated part code number through the ITSELF.

URL : http://itself.sec.samsung.co.kr

■ Parts List

No.	CODE NO	Description	Q'TY				Remark
			MC18AC2-09	MC19AC2-12	MC19AC2-07	MC24AC2-12	
1	DB64-00354A	GRILLE-AIR INLET	1	1	1	1	
2	DB63-00064A	GUARD-AIR FILTER	2	2	2	2	
3	DB95-00287G	ASS´Y-CLEANER FILTER	1	1	1	1	
4	DB63-00067A	COVER-TERMINAL	1	1	1	1	
5	DB92-00248A	ASSY PANEL-FRONT	1	1	1	1	
6	DB67-00051A	SPACER-EVAP LOW	1	1	1	1	
7	DB67-00032A	SPACER-EVAP UP	1	1	1	1	
8	DB63-00083A	COVER U-BEND	1	1	1	1	
9	DB94-00040F	ASSY-CROSS FAN	1	1	1	1	
10	DB60-20011A	BOLT-SPECIAL	1	1	1	1	
11	DB31-00033A	MOTOR-FAN-IN	1	1	1	1	
12	DB32-00020A	THERMISTOR-WIRE ASSY	1	1	1	1	
13	DB93-01223C	ASSY CONTROL IN	1	1	1	1	
13-1	DB93-01018A	ASSY PCB MAIN	1	1	1	1	
13-2	DB65-00078A	TERMINAL BLOCK	1	1	1	1	
13-3	DB65-10074E	CLAMP-CABLE	1	1	1	1	
13-4	DB93-00927A	ASSY DISPLAY-SWITCH PCB	1	1	1	1	
13-5	DB39-00147A	CONNECT WIRE-PCB	1	1	1	1	
14	DB94-00056G	ASSY BACK BODY	1	1	1	1	
15	DB94-00104A	ASSY-HOLDER MOTOR	1	1	1	1	
16	DB61-00165A	HOLDER-PIPE	1	1	1	1	
17	DB39-00146A	CONNECT WIRE-DISPLAY	1	1	1	1	
18	DB39-00147A	CONNECT WIRE-PCB	1	1	1	1	
19	DB70-00036A	PLATE-HANGER	1	1	1	1	
20	DB94-00058L	ASSY TRAY DRAIN	1	1	1	1	
20-1	DB94-00062E	ASSY DRAIN-HOSE	1	1	1	1	
20-2	DB66-00127A	BLADE-H	1	1	1	1	
20-3	DB66-00128A	BLADE-V,A	3	3	3	3	
20-4	DB66-00128B	BLADE-V,B	6	6	6	6	
20-5	DB63-00082A	SCREEN-SAFETY WIRE	1	1	1	1	
20-6	DB95-20138A	ASSY-MOTOR STEPPING	1	1	1	1	
20-6-1	DB31-10129A	MOTOR-STEPPING	1	1	1	1	
20-7	DB93-00859A	ASSY DISPLAY	1	1	1	1	
21	DB61-40251A	HOLDER-SENSOR	1	1	1	1	
22	DB67-60030A	SPRING-SENSOR	1	1	1	1	
23	DB96-01123K	ASSY EVAP-UNIT(EVAPORATOR ASSY)	1	1	-	1	
	DB96-01441A	ASSY CYCLE IN(EVAPORATOR ASSY)	-	-	1	-	
24	DB94-40003A	RUBBER BEARING	1	1	1	1	
25	DB93-00251K	ASSY REMOCON	1	1	1	1	

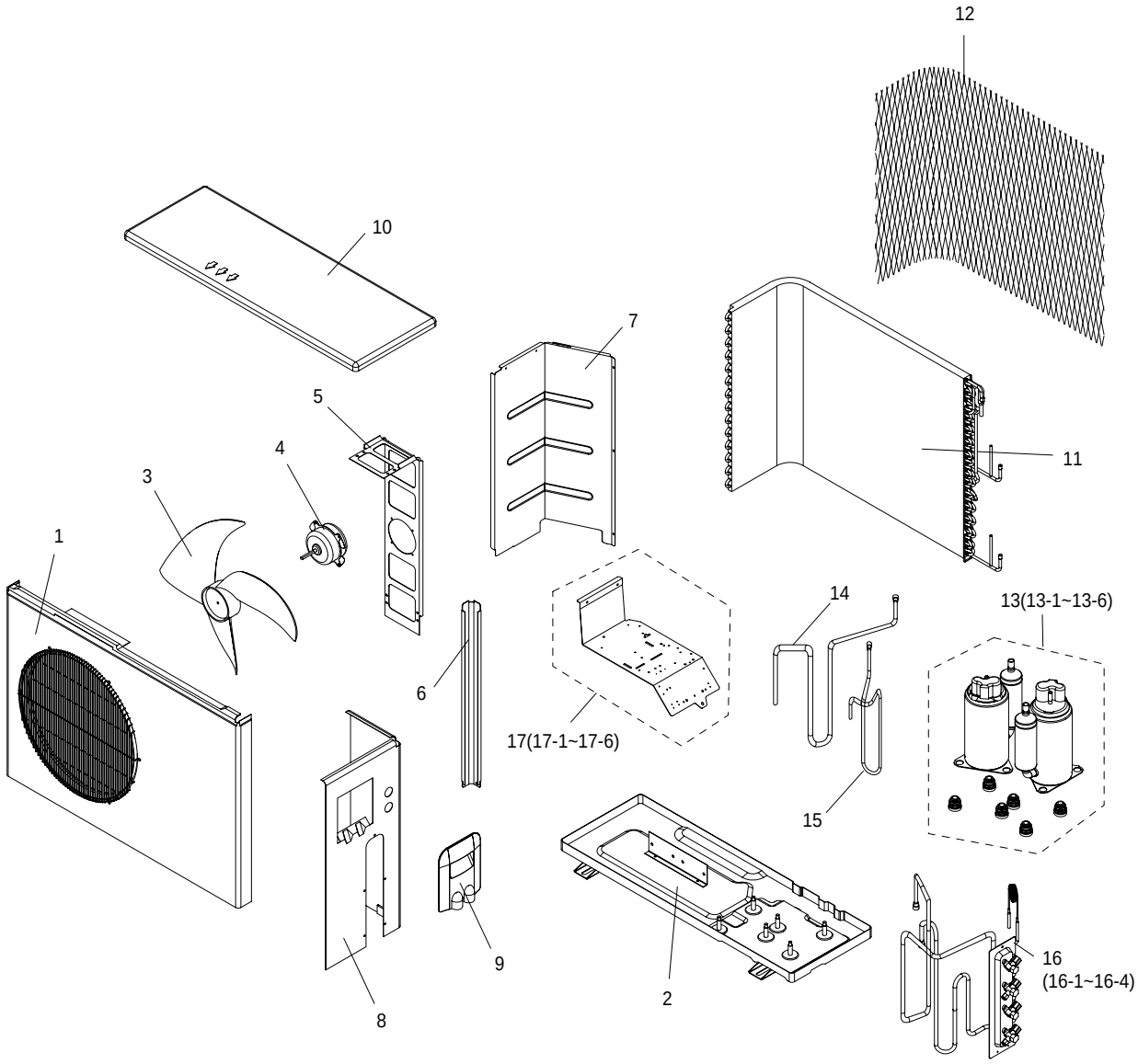
■ MC18AC2X



■ Parts List

No.	CODE NO	Description	Specification	Q'TY	Remark
				MC18AC2X	
1	DB90-00734A	ASSY CABI FRONT	ASS'Y	1	
1-1	DB63-00320A	GUARD FAN	SC-90073T	1	
2	DB90-00733A	ASSY BASE OUT	ASS'Y	1	
3	DB67-50063A	FAN PROPELLER	AS+G / F20%, D405	1	
4	DB31-00001F	MOTOR FAN	IC-9630SLJ5A	1	
5	DB61-20008C	BASE MOTOR	SGCC-M, T1.2	1	
6	DB63-00343A	GUARD COND	SC-90073T	1	
7	DB94-00180A	ASSY PARTITION	ASS'Y	1	
8	DB90-00737A	ASSY CABI SIDE RH	ASS'Y	1	
9	DB90-40176B	ASSY COVER CONTROL	ASS'Y	1	
10	DB90-00742A	ASSY CABI UPPER	ASS'Y	1	
11	DB96-01717E	ASSY COND-UNIT	ASS'Y	1	
12	DB61-00821D	GUIDE SCREEN	P.E.H 100%	1	
13	G4A097JU1EP	ROTARY COMPRESSOR	G4A097JU1EP	2	
13-1	DB60-30018A	NUT FLANGE	PI0.8, M5	2	
13-2	DB60-30028A	NUT WASHER	HEX, 2C, M8	6	
13-3	DB63-10165D	COVER TERMINAL	PBT, 2.5	2	
13-4	DB63-20002A	GASKET	EPDM, T0.8	2	
13-5	DB73-00070A	GROMMET ISOLATOR	NR 35°	6	
13-6	DB35-00015W	OLP	RAC12131-9622	2	
14	DB62-01225A	TUBE DISCHARGE A	ASS'Y	1	
15	DB62-01226A	TUBE DISCHARGE B	ASS'Y	1	
16	DB99-00253A	ASSY VALVE	ASS'Y	1	
16-1	DB62-01223A	TUBE SUCTION A	ASS'Y	1	
16-2	DB62-01224A	TUBE SUCTION B	ASS'Y	1	
16-3	DB96-01866A	ASSY TUBE CAPI A	ASS'Y	1	
16-4	DB96-01867A	ASSY TUBE CAPI B	ASS'Y	1	
17	DB93-01278A	ASSY CONTROL OUT	ASS'Y	1	
17-1	2301-001370	C-OIL	2.5uF, 450V	1	
17-2	2501-001237	C-OIL	35uF, 450V	2	
17-3	DB61-00891A	CASE CONTROL OUT	SGCC-M, T0.8	1	
17-4	DB65-40072A	TERMINAL BLOCK	ASS'Y	1	
17-5	DB47-00022A	THERMOSTAT	BU-A238	1	
17-6	3501-001213	RELAY-POWER	G2R-1-T	1	

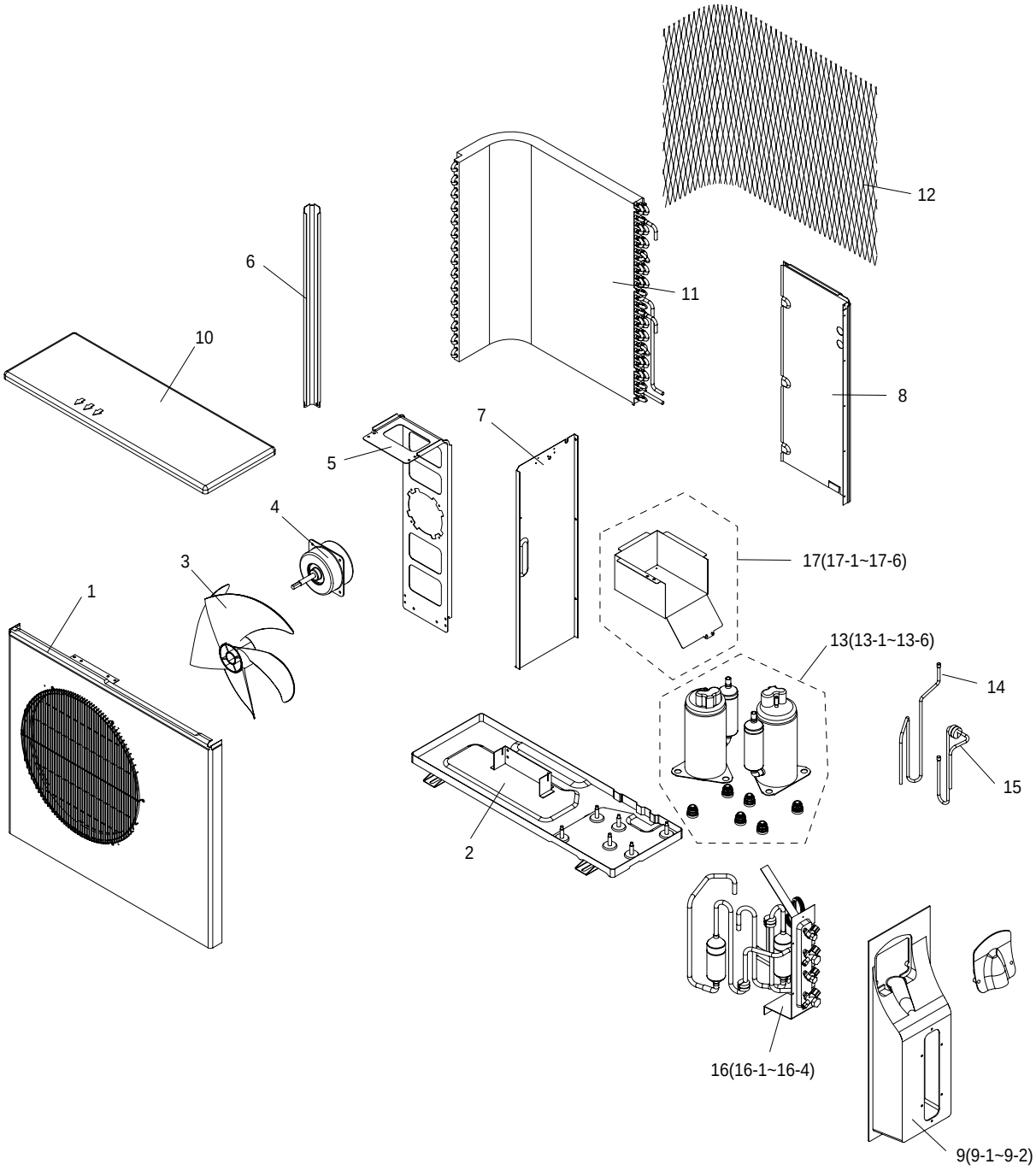
■ MC19AC2X



■ Parts List

No.	CODE NO	Description	Specification	Q'TY	Remark
				MC19AC2X	
1	DB90-00734A	ASSY CABI FRONT	ASS'Y	1	
1-1	DB63-00320A	GUARD FAN	SC-90073T	1	
2	DB90-00733B	ASSY BASE OUT	ASS'Y	1	
3	DB67-50063A	FAN PROPELLER	AS+G / F20%, D405	1	
4	DB31-00001F	MOTOR FAN	IC-9630SLJ5A	1	
5	DB61-20008C	BASE MOTOR	SGCC-M, T1.2	1	
6	DB63-00343A	GUARD COND	SC-90073T	1	
7	DB94-00180A	ASSY PARTITION	ASS'Y	1	
8	DB90-00737A	ASSY CABI SIDE RH	ASS'Y	1	
9	DB90-40176B	ASSY COVER CONTROL	ASS'Y	1	
10	DB90-00742A	ASSY CABI UPPER	ASS'Y	1	
11	DB96-01717D	ASSY COND-UNIT	ASS'Y	1	
12	DB61-00821D	GUIDE SCREEN	P.E.H 100%	1	
13	G4A080JU1EP	ROTARY COMPRESSOR	G4A080JU1EP	1	
	G8C124JU1EL	ROTARY COMPRESSOR	G8A124JU1EL	1	
13-1	DB60-30018A	NUT FLANGE	PI0.8, M5	2	
13-2	DB60-30028A	NUT WASHER	HEX, 2C, M8	6	
13-3	DB63-10165D	COVER TERMINAL	PBT, 2.5	2	
13-4	DB63-20002A	GASKET	EPDM, T0.8	2	
13-5	DB73-00067A	GROMMET ISOLATOR	NR 40°	6	
13-6	DB35-00015T	OLP	RAC12126-9622	1	
	DB35-00015V	OLP	RAC12128-9622	1	
14	DB62-01140A	TUBE DISCHARGE A	ASS'Y	1	
15	DB62-01141A	TUBE DISCHARGE B	ASS'Y	1	
16	DB99-00251A	ASSY VALVE	ASS'Y	1	
16-1	DB62-01142A	TUBE SUCTION A	ASS'Y	1	
16-2	DB62-01143A	TUBE SUCTION B	ASS'Y	1	
16-3	DB96-01179A	ASSY TUBE CAPI A	ASS'Y	1	
16-4	DB96-01778A	ASSY TUBE CAPI B	ASS'Y	1	
17	DB93-01278B	ASSY CONTROL OUT	ASS'Y	1	
17-1	2301-001370	C-OIL	2.5uF, 450V	1	
17-2	2501-001236	C-OIL	30uF, 450V	1	
	2501-001237	C-OIL	35uF, 450V	1	
17-3	DB61-00891A	CASE CONTROL OUT	SGCC-M, T0.8	1	
17-4	DB65-40072A	TERMINAL BLOCK	ASS'Y	1	
17-5	DB47-00022A	THERMOSTAT	BU-A238	1	
17-6	3501-001213	RELAY-POWER	G2R-1-T	1	

■ MC24AC2X

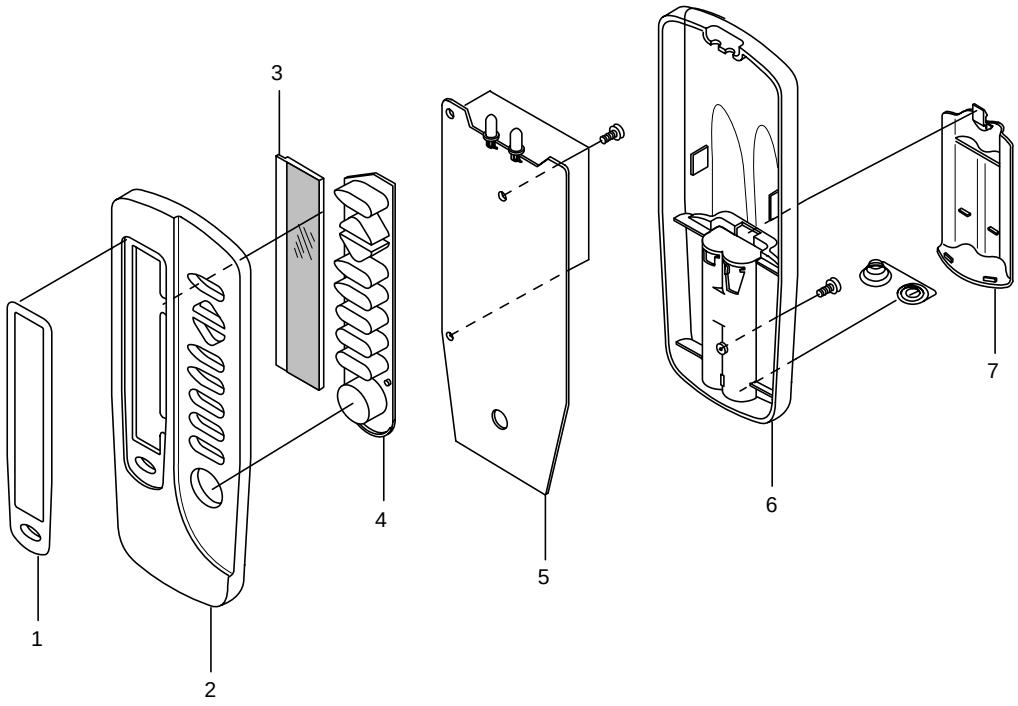


■ Parts List

No.	CODE NO	Description	Specification	Q'TY	Remark
				MC24AC2X	
1	DB90-01006A	ASSY CABI FRONT	ASS'Y	1	
2	DB90-20207A	ASSY BASE OUT	ASS'Y	1	
3	DB67-00140A	FAN PROPELLER	AS+G/F20%,D460	1	
4	DB31-00103A	MOTOR FAN	OSM-606SRC	1	
5	DB90-00967A	ASSY BKT MOTOR	ASS'Y	1	
6	DB63-30027C	GUARD COND	SC-90073T	1	
7	DB94-50041E	ASSY PARTITION	ASS'Y	1	
8	DB90-10574E	ASSY CABI SIDE	ASS'Y	1	
9	DB90-40120B	ASSY COVER	ASS'Y	1	
9-1	DB63-10434B	COVER	PP	1	
9-2	DB63-10433B	COVER CONTROL	PP	1	
10	DB90-00569A	ASSY CABI UPPER	ASS'Y	1	
11	DB96-02273A	ASSY COND	ASS'Y	1	
12	DB63-30110J	SCREEN GUARD	P.E.H 100%	1	
13	G8C124JU1EL	ROTARY COMPRESSOR	G8C124JU1EL	2	
13-1	DB60-30018A	NUT FLANGE	PI0.8,M5	2	
13-2	DB60-30028A	NUT WASHER	HEX,2C,M8	6	
13-3	DB63-10165D	COVER TERMINAL	PBT,2.5	2	
13-4	DB63-20002A	GASKET	EPDM,T0.8	2	
13-5	DB73-00067A	GROMMET ISOLATOR	NR 40°	6	
13-6	DB35-00015V	OLP	RAC12128-9622	2	
14	DB62-01356A	TUBE DISCHARGE A	ASS'Y	1	
15	DB62-01357A	TUBE DISCHARGE B	ASS'Y	1	
16	DB99-00261A	ASSY VALVE	ASS'Y	1	
16-1	DB62-01354A	TUBE SUCTION A	ASS'Y	1	
16-2	DB62-01355A	TUBE SUCTION B	ASS'Y	1	
16-3	DB96-02077A	ASSY TUBE CAPI A	ASS'Y	1	
16-4	DB96-02078A	ASSY TUBE CAPI B	ASS'Y	1	
17	DB93-01622A	ASSY CONTROL OUT	ASS'Y	1	
17-1	2301-001379	C-OIL	4uF,450V	1	
17-2	2501-001237	C-OIL	35uF,450V	2	
17-3	DB61-00584B	CASE CONTROL OUT	SGCC-M,T0.8	1	
17-4	DB65-40072A	TERMINAL BLOCK	ASS'Y	1	
17-5	DB47-00022A	THERMOSTAT	BU-A238	1	
17-6	3501-001231	RELAY POWER	G2R-1-T	1	

6-3 Remote Control & PCB Box

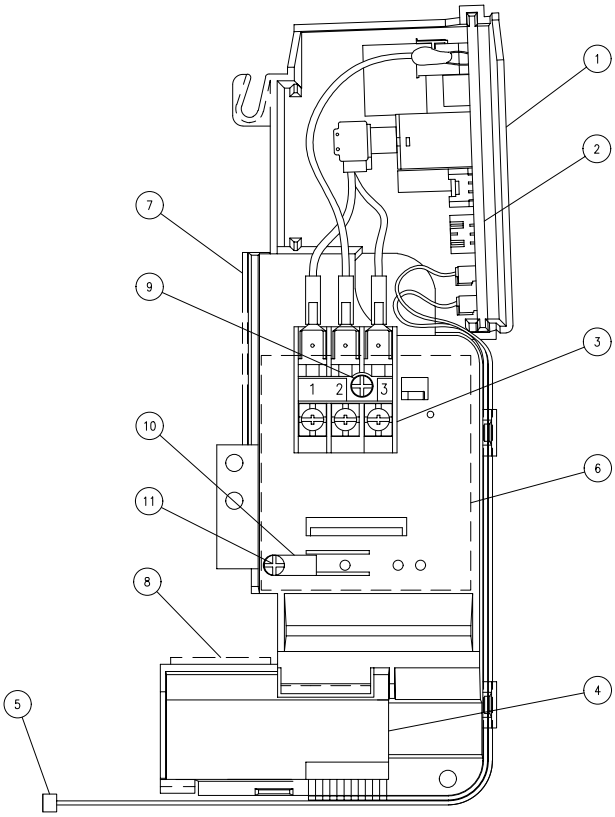
6-3-1 ASS'Y Remote : DB93-00251K



■ Parts List

No	Description	Q'TY	Remark
1	INLAY LCD	1	
2	CASE TOP	1	
3	LCD	1	
4	KEY RUBBER	1	
5	ASS'Y PCB REMOCON	1	
6	CASE LOW	1	
7	BATTERY COVER	1	

6-3-2 ASS'Y-CONTROL IN : DB93-01223C



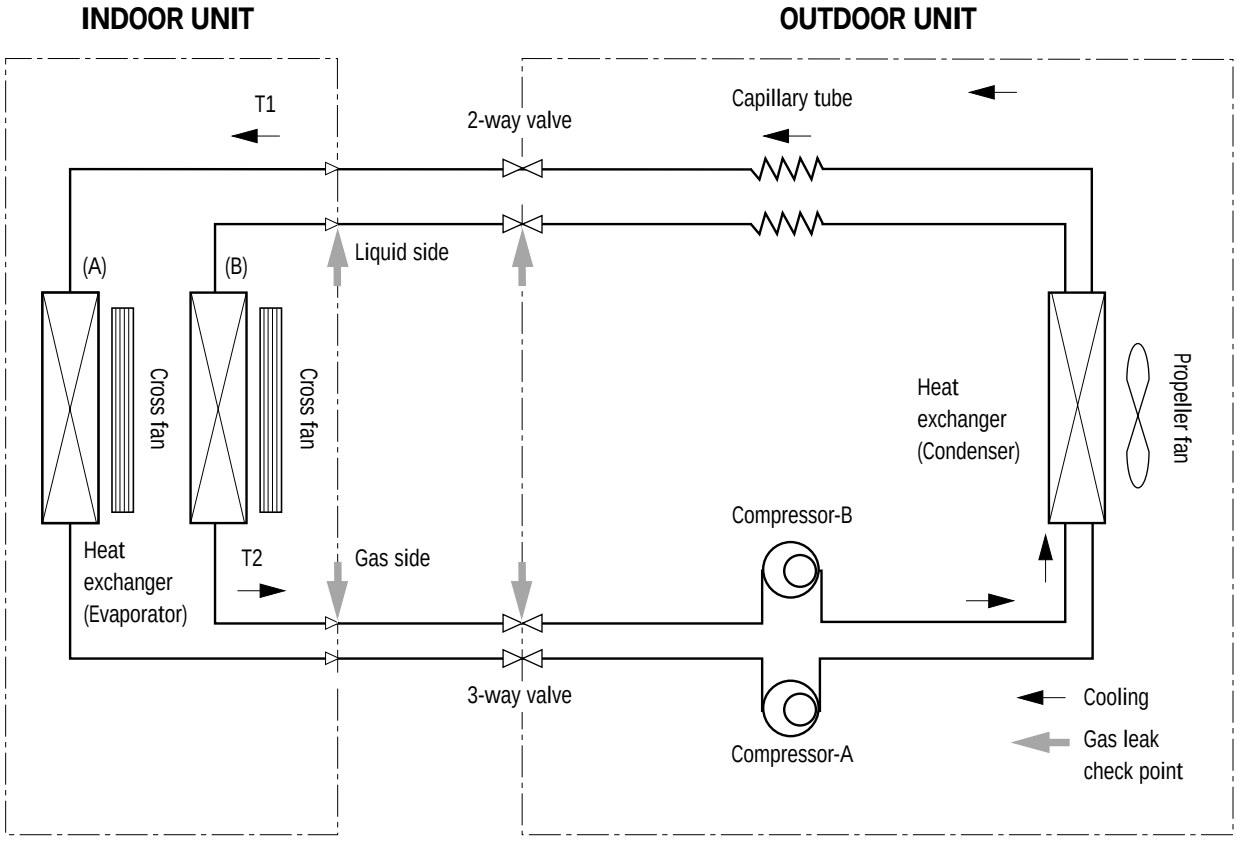
■ Parts List

No	Description	Specification	Remark
1	HOLDER CONTROL	DB61-00160A	
2	ASSY MAIN PCB	DB93-01018A	
3	TERMINAL BLOCK ASSY	DB65-00078A	
4	ASS'Y DISPLAY PCB	DB93-00927A	
5	CONNECTOR WIRE PCB U/D	DB39-00147A	
6	HOLDER CLAMP IN	DB61-00219A	
7	SEAL CONTROL SIDE	DB72-10191T	
8	SEAL H/CONTROL FRONT	DB72-00127V	
9	SCREW MACHINE	6001-000929	
10	CABLE CLAMP	DB65-10074E	
11	SCREW TAPPING	6002-000234	

MEMO

7. Block Diagrams

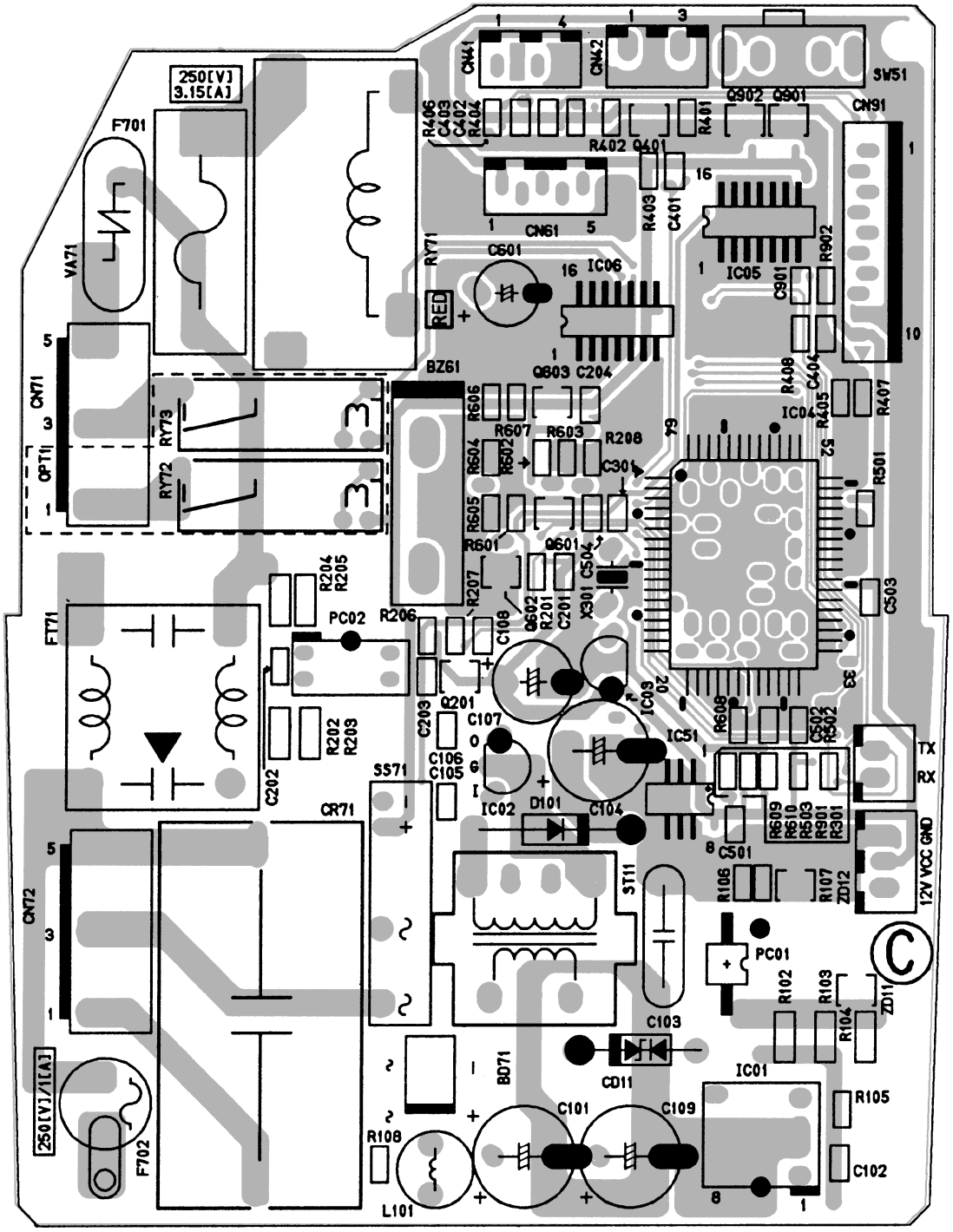
7-1 Refrigerating Cycle Block Diagram



8. PCB Diagrams

8-1 ASS'Y MAIN PCB;DB93-01018A

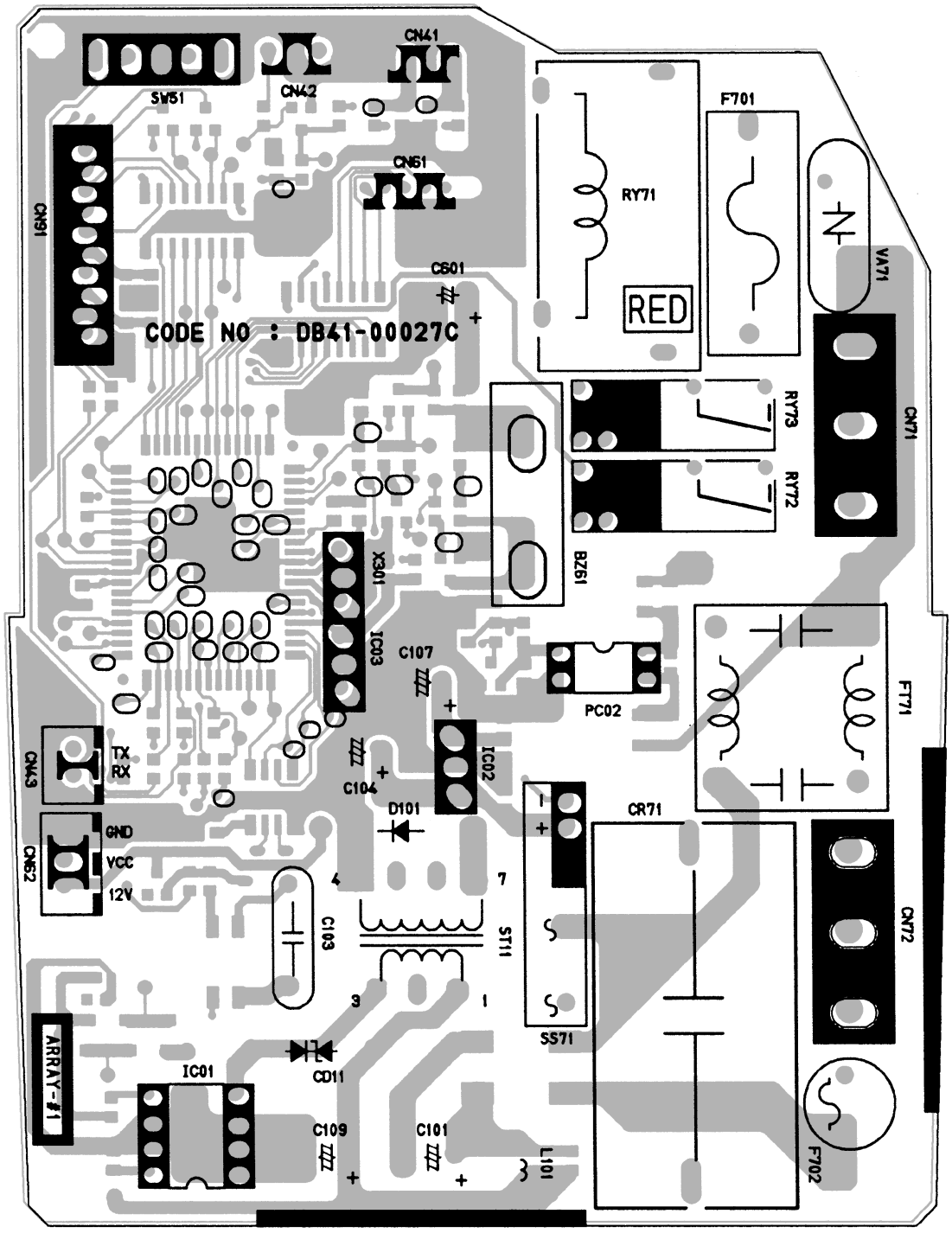
■ TOP PATTERN



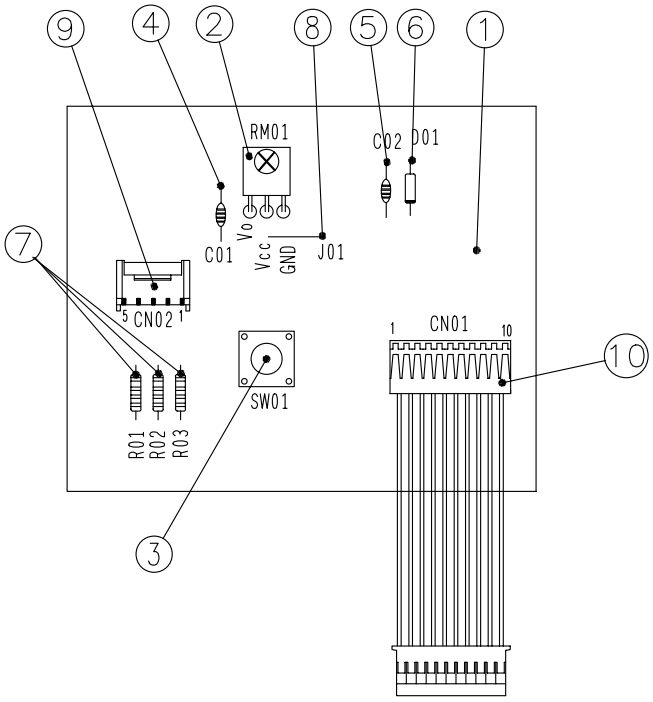
■ Parts List

No	Description	Specification	Location No.
1	PCB-MAIN	120x93	
2	IC-MCU	KS88C4632	IC04
3	IC DRIVE	ULN2003AFW	IC05, IC06
4	EEPROM	93LC56B-I/SN	IC51
5	PHOTO COUPLER	TLP181	PC01
6	TR SMALL SIGNAL	MMST2907A	Q603
7	TR SMALL SIGNAL	2SC2412K	Q201, Q401, Q601, Q602
8	TR DIGITAL	DTA114EKA	Q901, Q902
9	DIODE BRIDGE	DF06S	BD71
10	ZENER	BZX84-C11	ZD12
11	ZENER	BZX84-C3V6	ZD11
12	SSR	G3MB202PL	SS71
13	TR SWITCH	TNY255P	IC01
14	IC VOLT REGULATOR	KA78L05	IC02
15	IC	KA7533Z	IC03
16	PHOTO COUPLER	PC814	PC02
17	FR-DIODE	UG2B	D101
18	T.V.S	ST02D-200	CD11
19	VARISTOR	INR14D561K-BS	VA71
20	RESONATOR CERAM IC	10MHZ	X301
21	SW TRANS	JT1916	ST11
22	FILTER NOISE	HP1-P10 / NFP-1010	FT71
23	COIL	5mH/50mA	L101
24	RELAY POWER	UKH-12S	RY71
25	BUZZER	CBE2220BA	BZ61
26	HOLDER FUSE	FB58	F701
27	FUSE	250V, 3.15A	F701
28	FUSE	250V, 1A	F702
29	CONNECTOR HEADER	YW396-05AV WHT	CN72
30	CONNECTOR HEADER	YW396-05AV BLU	CN71
31	CONNECTOR HEADER	SMW200-10 WHT	CN91
32	CONNECTOR HEADER	SMW200-5PWHT	CN61
33	CONNECTOR HEADER	SMW300-3P WHT	CN42
34	CONNECTOR HEADER	SMW200-4P WHT	CN41
35	C-FILM	1.2µF, 450V	CR71
36	C-AL	SD 1000µF, 25	C104
37	C-AL	47µF, 50V	C601
38	C-AL	470µF, 16V	C107
39	C-ELEC	SD 6.8µF/450V	C101, C109
40	C-CERAMIC	SDE 2G 222M	C103
41	C-CHIP	CS2012Y5V104Z500NR	C102, C105, C106, C108, C201, C202, C301, C402, C403, C501, C502, C503, C504, C901
42	C-CHIP	CS2012Y5V103Z500NR	C203, C204, C401
43	C-CHIP	CS2012X7R102K500NR	C404
44	R-CHIP	MCR18EZHJ224	R102, R103, R104
45	R-CHIP	MCR18EZHJ104	R202, R203, R204, R205
46	R-CHIP	MCR10EZHF6801	R404, R406
47	R-CHIP	MCR10EZHJ103	R206, R501, R502, R503, R602, R609, R610, R902
48	R-CHIP	MCR10EZHJ682	R402
49	R-CHIP	MCR10EZHJ472	R108, R603, R901
50	R-CHIP	MCR10EZHJ102	R201, R207, R208, R301, R401, R403, R408, R601, R607, R608
51	R-CHIP	MCR10EZHJ561	R606
52	R-CHIP	MCR10EZHJ471	R105, R604, R605
53	R-CHIP	MCR10EZHJ331	R405, R407
54	R-CHIP	MCR10EZHJ221	R106, R107
55	RELAY-MINIATURE	F3AA012E	RY72, RY73

■ BOTTOM PATTERN



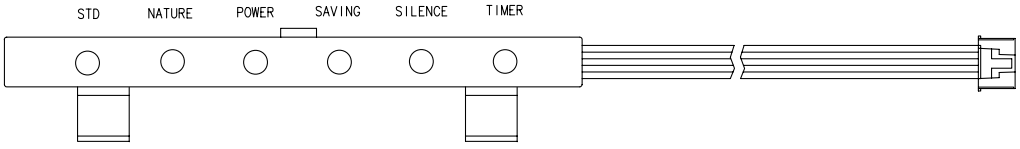
8-3 ASS'Y DISPLAY PCB;DB93-00927A



■ Parts List

No	Description	Location No.	Specification	Q'TY	Remark
1	PCB-DISPLAY		64.5x53	1	
2	MODULE REMOCON	RM01	KSM-713TH5	1	
3	TACT SWITCH	SW01	KPT-1105A	1	
4	C-CERAMIC	C01	102K	1	
5	C-CERAMIC	C02	104Z	1	
6	DIODE SWITCHING	D01	IN4148	1	
7	R-CARBON	R01, R02, R03	470 1/2W 5%	3	
8	JUMP	J01	10mm	2	
9	CONNECTOR WAFER	CN02	SMAW200-05	1	
10	CONNECTOR WIRE	CN01	UL1007, AWG#26	1	

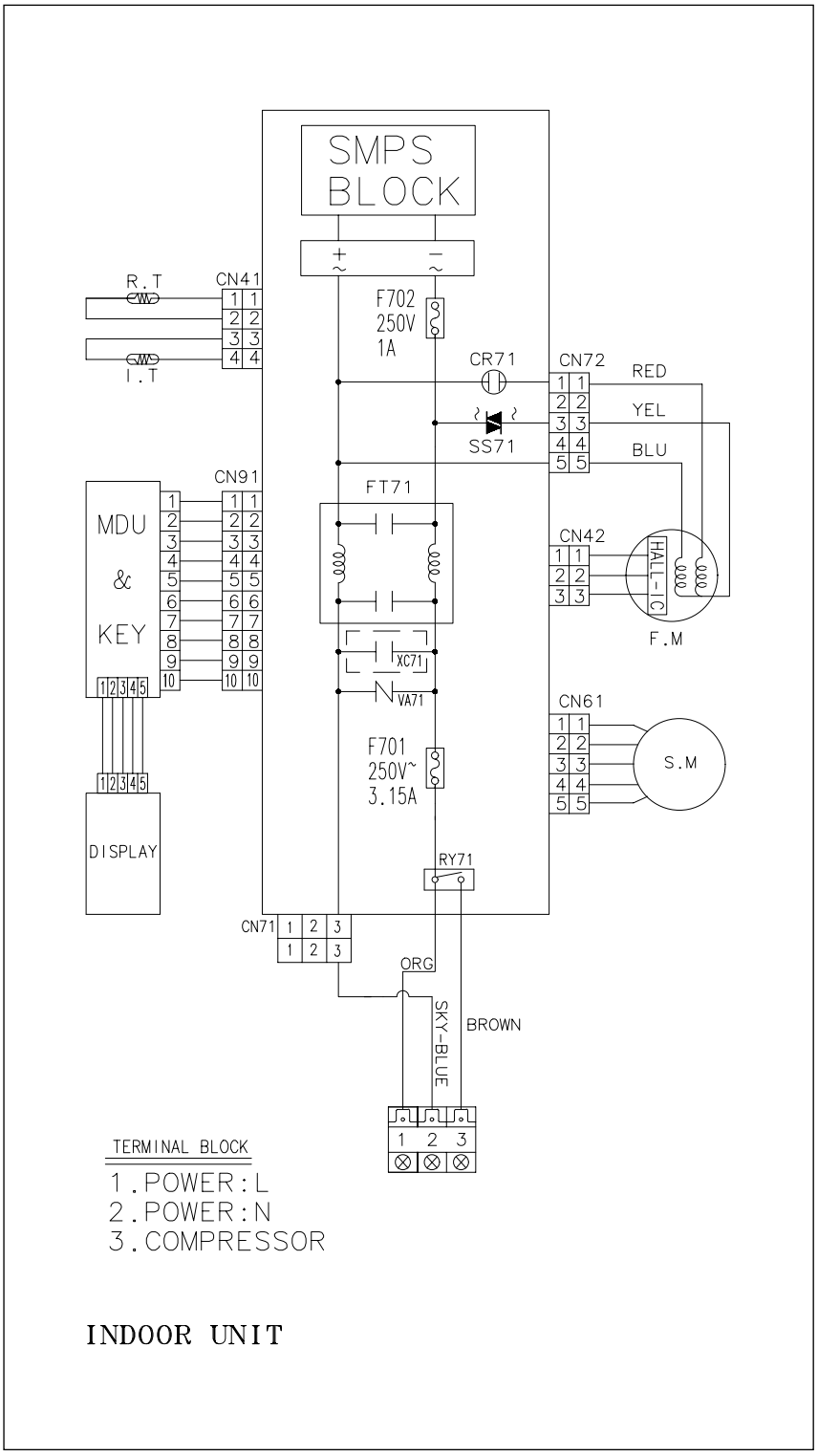
8-4 ASS'Y CENTER DISPLAY;DB93-00859A

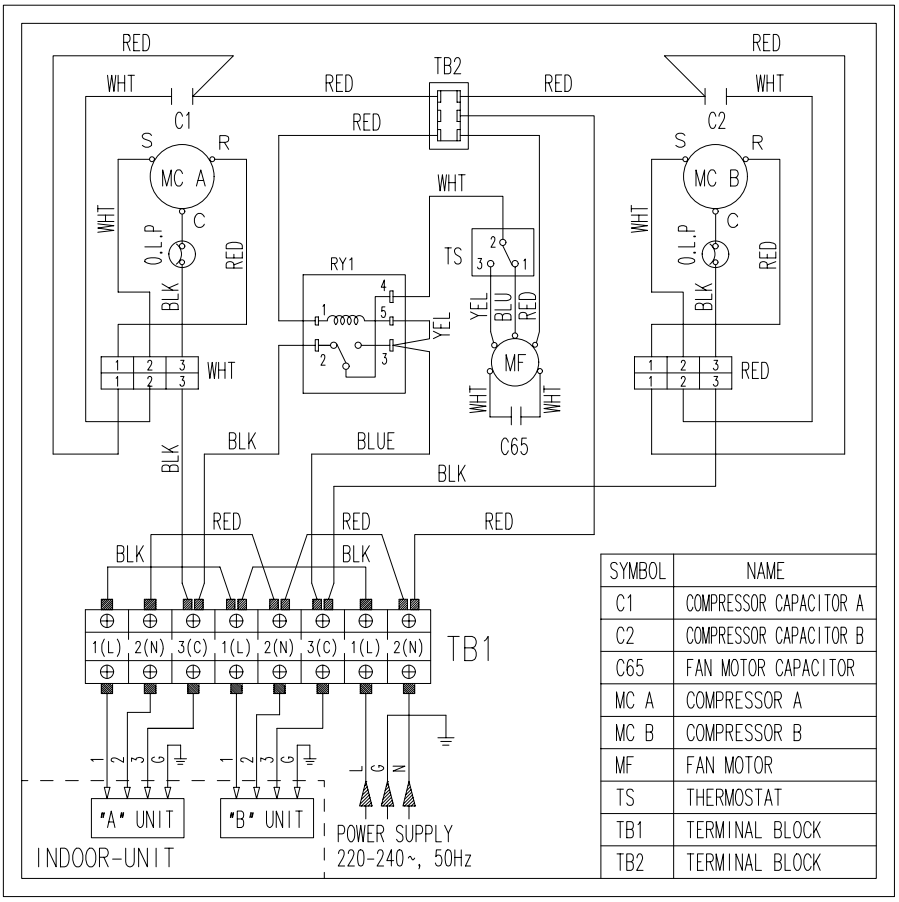


MEMO

9. Wiring Diagrams

9-1 Indoor Unit



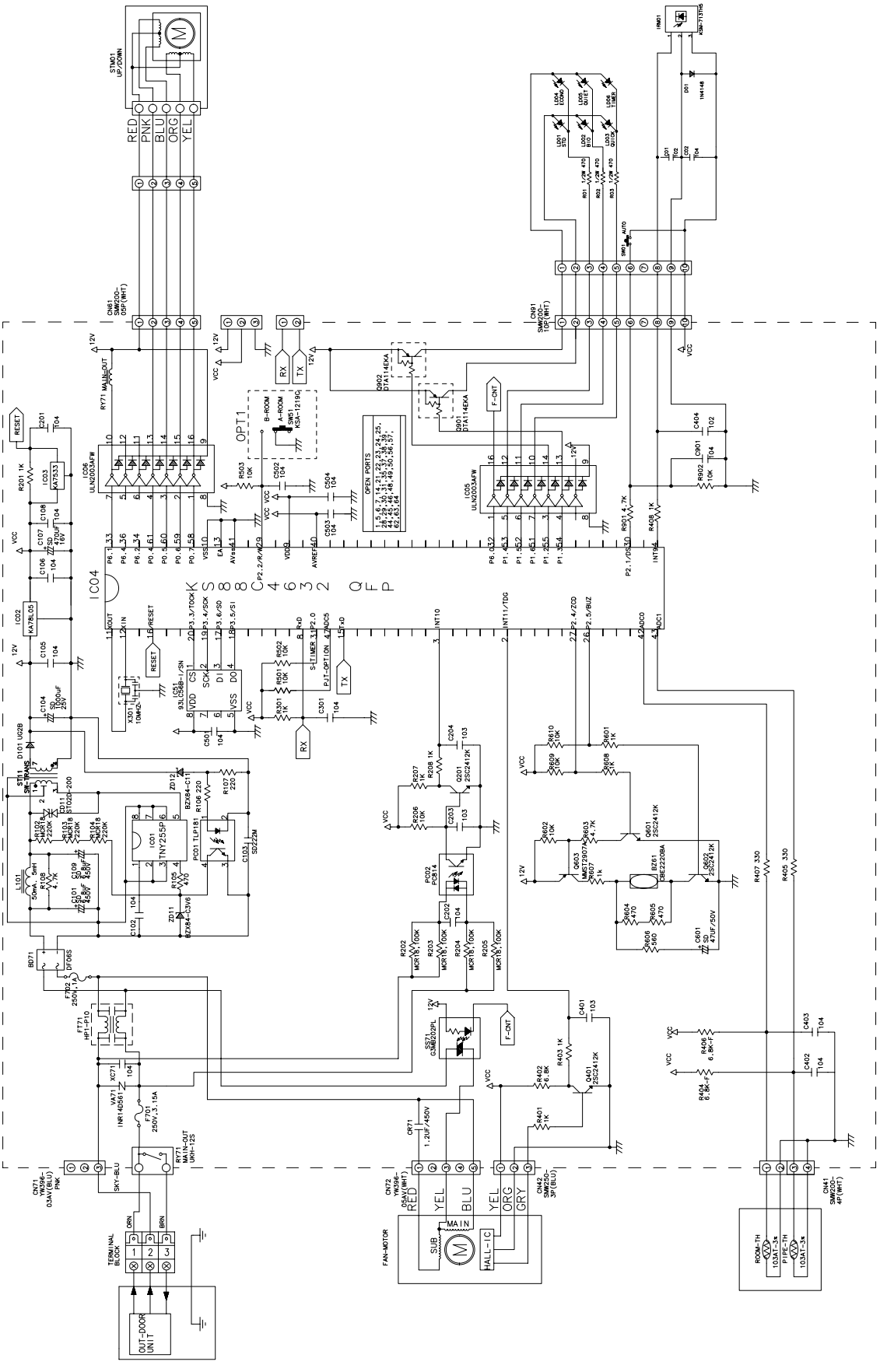


SYMBOL	NAME
C1	COMPRESSOR CAPACITOR A
C2	COMPRESSOR CAPACITOR B
C65	FAN MOTOR CAPACITOR
MC A	COMPRESSOR A
MC B	COMPRESSOR B
MF	FAN MOTOR
TS	THERMOSTAT
TB1	TERMINAL BLOCK
TB2	TERMINAL BLOCK

MEMO

10. Schematic Diagrams

10-1 Indoor Unit



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UPDATE LOG SHEET

Application date	Page	Part#	Note(Cause & Solution)	S/Bulletin#

Use this page to keep any special servicing information. (Service Bulletin, etc.)
If only parts number changes, Just change parts number directly on parts list.
And if you need more information, please see the service website.

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